Section
B

Plate B-950

Signals

Style "D" Cast Iron Semaphore Lamp and Sighting Tube

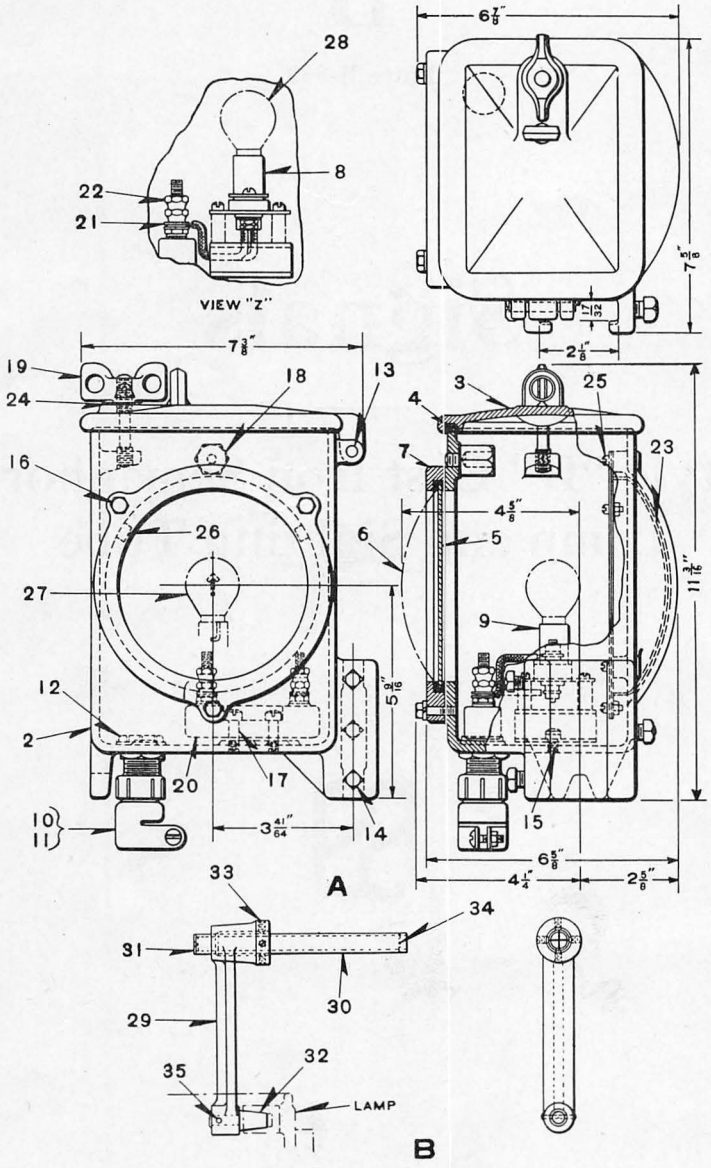
Union Switch & Signal Co.
Swissvale, Pa.

10–28

Printed in U.S.A.

PLATE B-950

UNION SWITCH & SIGNAL COMPANY



STYLE "D" CAST IRON SEMAPHORE LAMP
AND SIGHTING TUBE

UNION SWITCH & SIGNAL COMPANY

STYLE "D" CAST IRON SEMAPHORE LAMP AND SIGHTING TUBE

For Application of Lamp to Signals see Bulletin No. 128

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Drawing references are shown for convenience in checking material with shipping lists and invoices.

Style "D" Cast Iron Semaphore Lamp, Complete (No Bulb)

Piece	Ref.	Lamp Contacts	Cover Glass	Remarks	Drawing Reference
150196	**A**	Single (As shown)	Flat Clear Roundel	For Dwarf and High Signal	B–9224–69
149687	**Aa**	Double (View "Z")	Flat Clear Roundel	For Dwarf and High Signal	B–9224–69
150485	**Ab**	Single (As shown)	40° Deflecting Roundel	For Dwarf Signal	B–9224–69
150484	**Ac**	Double (View "Z")	40° Deflecting Roundel	For Dwarf Signal	B–9224–69
151089	**Ad**	Single (As shown)	5⅜" Lunar White Roundel		B–9224–69

Piece	Ref.	Description	Drawing Reference
150266	**B**	**Sighting Tube** for Style "D" C. I. Semaphore Lamp, complete as shown for Dwarf and High Signals.....	C–9003–4
149645	**2**	**Case**.....	C–8123–19
	3	**Cover with Gasket** (Inc. 1-3a and 1-4).....	C–8123–20
149563	**3a**	**Cover** only, for Ref. 3.....	C–8123–20
149778	**4**	**Gasket**.....	8078–1454
149548	**5**	**Flat Clear Roundel,** for Refs. A and Aa.....	8163–222
150587	**6**	**Deflecting Cover Glass, 5⅜"** Dia., 40° for Refs. Ab and Ac.....	B–8276–49

UNION SWITCH & SIGNAL COMPANY

STYLE "D" CAST IRON SEMAPHORE LAMP AND SIGHTING TUBE
(Continued)

For Application of Lamp to Signals see Bulletin No. 128

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Drawing references are shown for convenience in checking material with shipping lists and invoices.

Piece	Ref.	Description	Drawing Reference
	6a	**Lunar White Convex Sema. Roundel,** 5 3/8" Dia. for Ref. Ad.	
137445	**7**	**Lens Ring**	7632–223
150195	**8**	**Receptacle complete (for Double Contact Lamp)** for Refs. Aa and Ac	9954–64
149750	**9**	**Receptacle complete (for Single Contact Lamp)** for Refs. A, Ab and Ad	9954–63
	10	**Box Connector,** 3/4" M. I. Galv.	
	11	**Panel Box Adapter,** 3/4" M. I. Galv.	
	12	**Conduit Bushing,** 3/4" M. I.	
149774	**13**	**Pin,** for attaching cover Ref. 3 to case Ref. 2	B–10202–1
	14	**Set Screw, 3/8"-16x5/8"** Rd. Pt. Sq. Hd. (Cad. Pl.) for lamp bracket socket.	
	15	**Machine Screw, No. 12-28x3/8"** Fil. Hd. S. (Cad. Pl.) for attaching receptacle Ref. 8 or 9, to case, Ref. 2.	
	16	**Machine Screw, 1/4"-20x7/8"** Hex. Hd. S. with 1/4" Pl. S. Lock Washer (1/16"x1/16") Cad. Pl. for attaching lens ring Ref. 7 to case, Ref. 2.	
	17	**Machine Screw, No. 12-28x3/4"** Fil. Hd. S. (Cad. Pl.) for attaching terminal block Ref. 20 to base.	
149681	**18**	**Telescope Supporting Stud**	8114–678
132539	**19**	**Thumb Screw**	8331–69
	20	**Terminal Block, with Washers and Nuts** (Inc. 1-20a, 4-21 and 4-22)	9968–625

UNION SWITCH & SIGNAL COMPANY

STYLE "D" CAST IRON SEMAPHORE LAMP AND SIGHTING TUBE
(Continued)

For Application of Lamp to Signals see Bulletin No. 128

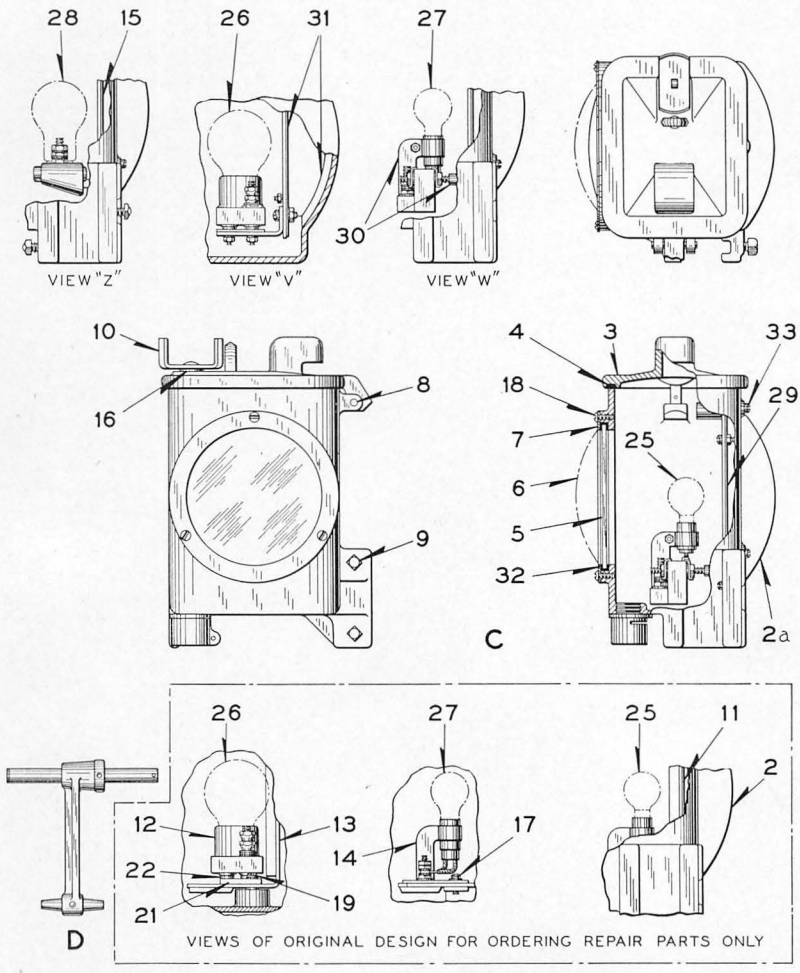
Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Drawing references are shown for convenience in checking material with shipping lists and invoices.

Piece	Ref.	DESCRIPTION	Drawing Reference
116846	**20a**	**Terminal Block, with Terminal Posts** (Without Refs. 21 and 22)	9968–625
29102	**21**	**Washer,** for Ref. 20	7828–139
29101	**22**	**Nut,** for Ref. 20	8109–193
149802	**23**	**Reflector**	C–8123–20
147448	**24**	**Gasket**	8078–422
	25	**Machine Screw, No. 10-30x⅜″** Fil. Hd. S. (Cad. Pl.) for attaching reflector, Ref. 23 to Case, Ref. 2.	
131706	**26**	**Felt Gasket** (3 pieces) for A and Aa	8078–1367
120799	**27**	**Lamp Bulb (Single Contact) 3.5 Volts, .3 Amp.**	B–12409–12
120800	**27a**	**Lamp Bulb (Single Contact) 8 Volts, .25 Amps.**	B–12409–12
120801	**27b**	**Lamp Bulb (Single Contact) 10 Volts, .25 Amps.**	B–12409–12
120802	**27c**	**Lamp Bulb (Single Contact) 12 Volts, .25 Amps.**	B–12409–12
120803	**27d**	**Lamp Bulb (Single Contact) 13.5 Volts, .25 Amps.**	B–12409–12
124019	**28**	**Lamp Bulb (Double Contact) 13.5 Volts, .25 Amps.**	B–12409–12
112085	**28a**	**Lamp Bulb (Double Contact) 3.5 Volts, .3 Amps.**	B–12409–12
		Note:—Refs. 29 to 35 are shown for information. If repairs are wanted, the sighting device complete should be returned to our factory.	

MEMORANDA

This Plate Supersedes Plate
B-951 Dated 4-30



Style "D" Cast Iron Semaphore Lamp And Sighting Tube

Style "D" Cast Iron Semaphore Lamp And Sighting Tube

For application of Lamp to Signals see Bulletin No. 128.
Lamps listed on this Plate supersede those on Plate B-950.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "D" Cast Iron Semaphore Lamp Arranged as shown for Single Contact Lamp Bulb (Without Bulb) Dwg. B-9224-80.

Piece	Ref.	Roundel				Remarks
		Type	Angle	Color	Ref.	
218349	C			Clear	5	For Dwarf and High Signal.
218355	Ca	Deflecting	40°	Clear	6	Cover Glass assembled with arrow turned up for Dwarf Signal.
218358	Cb	Deflecting	40°	Clear	6	Cover Glass assembled with arrow turned down for High Signal.
218370	Cc	Deflecting	20°	Red	6b	Cover Glass assembled with arrow turned down.
218356	Cd			Lunar White (Convex)	6c	
218362	Ce			Purple (Convex)	6f	
218364	Cf			Red (Convex)	6g	
218365	Cg			Yellow (Convex)	6e	
218366	Ch			Green (Convex)	6d	
218368	Cj			Blue (Convex)	6h	

Style "D" Cast Iron Semaphore Lamp And Sighting Tube

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "D" Cast Iron Semaphore Lamp Arranged Per View "W" for Double Contact Lamp Bulb (Without Bulb) Dwg. B-9224-80.

Piece	Ref.	Cover Glass				Remarks
		Type	Angle	Color	Ref.	
218348	**Ck**			Clear	5	For Dwarf and High Signal.
218354	**Cm**	Deflecting	40°	Clear	6	Cover Glass assembled with arrow turned up for Dwarf Signal.
218359	**Cn**	Deflecting	40°	Clear	6	Cover Glass assembled with arrow turned down for High Signal.

Style "D" Cast Iron Semaphore Lamp Arranged Per View "V" for Medium Screw Base Lamp Bulb (Without Bulb) Dwg. B-9224-80.

Piece	Ref.	Cover Glass				Remarks
		Type	Angle	Color	Ref.	
218357	**Cp**			Clear	5	
218369	**Cq**	Deflecting	40°	Clear	6	Cover Glass assembled with arrow turned up.
218361	**Cr**			Yellow (Convex)	6e	
218360	**Cs**			Green (Convex)	6d	

Style "D" Cast Iron Semaphore Lamp And Sighting Tube

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "D" Cast Iron Semaphore Lamp Arranged Per View "Z" for Rebased Lamp Bulb (Without Bulb) Dwg. B-9224-71.

Piece	Ref.	Cover Glass				Remarks
		Type	Angle	Color	Ref.	
170545	**Ct**			Clear	5	For Dwarf and High Signal.
162228	**Cu**	Deflecting	40°	Clear	6	Cover Glass assembled to deflect light up and 45° to left for Dwarf Signal.
162229	**Cv**	Deflecting	20°	Clear	6a	Cover Glass assembled to deflect light vertically downward for High Signal.
162230	**Cw**	Deflecting	20°	Red	6b	Cover Glass assembled to deflect light vertically downward for High Signal.
168523	**Cx**			Lunar White (Convex)	6c	For High Signal.

Piece	Ref.	Description	Drawing Reference
170622	**D**	**Sighting Tube for Style "D" C.I. Semaphore Lamp, Complete** as shown for Dwarf and High Signals	C–9003–4
149645	**2**	**Case** (For original design of lamp)	C–8123–19
162179	**2a**	**Case** for Refs. C to Cx inclusive	C–8123–19
206980	**3**	**Cover** with Ventilator Screen and Gasket (Inc. 1-3a and 1-4)	C–8123–20
162428	**3a**	**Cover** with Ventilator Screen only (Inc. 1-3b, 1-3c and 3-3d)	C–8123–20
911	**3b**	**Plate** for holding Screen in Ventilator	7826–40

Style "D" Cast Iron Semaphore Lamp And Sighting Tube

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
913	3c	**Screen** for Ventilator	B–7318–3
	3d	**Machine Screw,** No. 10-30x¼″ Rd. Hd. Br. (N.P.) for attaching Plate Ref. 3b to Cover.	
149778	4	**Gasket**	8078–1454
149548	5	**Clear Flat Roundel,** 5⅜″ diam. for Refs. C, Ck, Cp and Ct	8163–222
150587	6	**Clear Roundel,** 40° deflecting, 5⅜″ diam. for Refs. Ca, Cb, Cm, Cn, Cq and Cu	B–8276–49
141274	6a	**Clear Roundel,** 20° deflecting, 5⅜″ diam. for Ref. Cv	B–8276–38
162206	6b	**Red Roundel,** 20° deflecting, 5⅜″ diam. for Refs. Cc and Cw	B–8276–38
	6c	**Lunar White Convex Roundel,** 5⅜″ diam. for Refs. Cd and Cx.	
	6d	**Green Convex Roundel,** 5⅜″ diam. for Refs. Ch and Cs.	
	6e	**Yellow Convex Roundel,** 5⅜″ diam. for Refs. Cg and Cr.	
	6f	**Purple Convex Roundel,** 5⅜″ diam. for Ref. Ce.	
	6g	**Red Convex Roundel,** 5⅜″ diam. for Ref. Cf.	
	6h	**Blue Convex Roundel,** 5⅜″ diam. for Ref. Cj.	
161117	7	**Lens Ring**	7436–147
149774	8	**Pin** for attaching Cover to Case	B–10202–1
	9	**Set Screw,** ⅜″-16x⅝″ Rd. Pt. Sq. Hd. (Cad. Pl.) for lamp bracket socket.	
161127	10	**Thumb Screw** with 1/16″x⅝″ Brass Cotter (N.P.)	8331–76
163185	11	**Reflector and Receptacle Complete** for original design using single contact bayonet base lamp bulb.	C–8123–21
121591	12	**Receptacle** for original design using medium screw base lamp bulb	9954–60

Style "D" Cast Iron Semaphore Lamp And Sighting Tube

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
161870	**13**	**Reflector with Mounting Bracket** for original design using medium screw base lamp bulb	C–8123–21
163186	**14**	**Reflector and Receptacle Complete** for original design using double contact bayonet base lamp bulb	C–8123–21
162209	**15**	**Reflector and Receptacle Complete** for Refs. Ct to Cx inc	C–8123–21
164761	**16**	**Gasket**	8078–422
	17	**Machine Screw,** No. 14-24x$\frac{1}{2}$″ Fil. Hd. Bz. (N.P.) with $\frac{1}{4}$″ Pl. S. Lock Washer ($\frac{9}{64}$″x$\frac{5}{64}$″) (Tin Pl.) and $\frac{3}{16}$″ S. Plate Washer (Tin Pl.) for attaching Refs. 11 and 14 to Case.	
	18	**Machine Screw,** No. 10-30x$\frac{3}{8}$″ Rd. Hd. Br. (N.P.).	
	19	**Machine Screw,** No. 14-24x$\frac{3}{4}$″ Fil. Hd. Bz. (N.P.) with $\frac{1}{4}$″ Pl. S. Lock Washer ($\frac{9}{64}$″x$\frac{5}{64}$″) (Tin Pl.) and $\frac{3}{16}$″ S. Plate Washer (Tin Pl.) for attaching Ref. 13 to Case.	
	20	**Machine Screw,** No. 10-30x$\frac{5}{8}$″ Fil. Hd. Br. (N.P.) for attaching Ref. 12 to Ref. 21 (Not Shown).	
163246	**21**	**Bracket**	9999–738
122842	**22**	**Gasket**	8078–880
120799	***25**	**Lamp Bulb** (Single Contact) 3.5 Volts, .3 Amp	B–12409–12
120800	***25a**	**Lamp Bulb** (Single Contact) 8 Volts, .25 Amp	B–12409–12
120801	***25b**	**Lamp Bulb** (Single Contact) 10 Volts, .25 Amp	B–12409–12
120802	***25c**	**Lamp Bulb** (Single Contact) 12 Volts, .25 Amp	B–12409–12
120803	***25d**	**Lamp Bulb** (Single Contact) 13.5 Volts, .25 Amp	B–12409–12
		*Note:—When Lamps are required for daylight lighting refer to Ref. 40, Plate K-127.	

Style "D" Cast Iron Semaphore Lamp And Sighting Tube

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
97079	**26**	**Lamp Bulb** (Medium Screw Base) 120 Volts, 23 Watts	B–12409–6
95268	**26a**	**Lamp Bulb** (Medium Screw Base) 120 Volts, 36 Watts	B–12409–6
112085	**27**	**Lamp Bulb** (Double Contact) 3.5 Volts, .3 Amp....	B–12409–12
124019	**27a**	**Lamp Bulb** (Double Contact) 13.5 Volts, .25 Amp	B–12409–12
	28	**Lamp Bulb,** Refer to Refs. A, B and C of Plate B-2571 when ordering.	
218341	**29**	**Reflector and Receptacle Complete** for use with single contact bayonet base lamp bulb.....	C–8123–32
218342	**30**	**Reflector and Receptacle Complete** for use with double contact bayonet base lamp bulb.....	C–8123–32
218350	**31**	**Reflector and Receptacle Complete** for use with medium screw base lamp bulb.....	C–8123–32
131706	**32**	**Felt Gasket,** $\frac{3}{16}''$ wide x$\frac{3}{8}''$ long x$\frac{3}{16}''$ thick. Used for roundels.....	8078–1367
	33	**Machine Screw,** No. 10-30x1$\frac{3}{8}''$ Fil. Hd. Br. (N.P.) with No. 10 Pl. S. Lock Washer ($\frac{1}{16}''$x$\frac{3}{64}''$) (Tin Pl.) and Nut Ref. 33a.	
26942	**33a**	**Nut**.....	8109–184

Section
B

SIGNALS

STYLE "T-2" D.C., L.V. SMASHBOARD SIGNALS

Union Switch & Signal Co.
Swissvale, Pa.

December, 1930

Printed in U. S. A.

Remove Staple and file in proper sequence in Loose Leaf Cover

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GENERAL INFORMATION FOR STYLE "T-2" SMASHBOARD SIGNALS

Union "T-2" Smashboard Signals can be supplied for either upper or lower quadrant operation of the smashboard. The smashboard is motor-driven to both the clear and danger positions, thus insuring that the position of the smashboard is in agreement with its lever or track control.

The same "T-2" Motor and Hand Operating Mechanisms are used for both 0°-90° L.H. U.Q. and 0°-85° L.H.L.Q. smashboard signals.

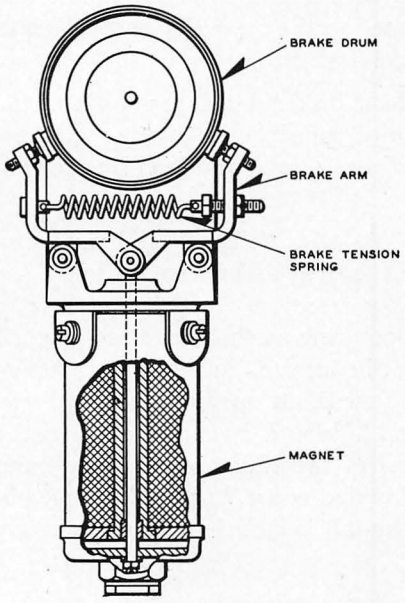


Fig. 1—Electrically Released Friction Brake

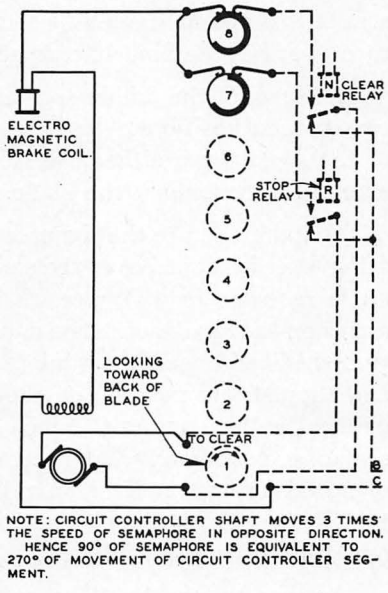


Fig. 2—Wiring Diagram of Style "T-2" Smashboard Signal

The difference in quadrant is cared for by locating the stud, to which the "up-and-down" rod connection is made, on the opposite side of the center of the semaphore shaft. The difference in stroke is obtained by proper adjustment of motor control segment on circuit controller.

The "T-2" Motor used in connection with smashboard signals has no ratchet device. Instead of the usual slot, it employs an electro-magnet which operates a friction brake. This brake holds the mechan-

ism in any position, in which it may be, when power is off. As shown in Fig. 1, the two cork pads which are fastened to the brake arms are normally held against the brake drum by the brake tension spring. The pressure of these pads upon the brake drum is released when the magnet becomes energized. Since the magnet is in series with the motor, the magnet is energized only as long as the mechanism is being operated. Reference to the wiring diagram, Fig. 2, will show that when the mechanism reaches either the "stop" or "clear" positions, the motor circuit is broken and the brake is automatically applied. Two relays are required for the control of the mechanism, one to be energized for clearing and one for returning to danger.

The "T-2" Mechanism is directly connected to a shaft extending into the case containing the hand operating mechanism. Mounted on this shaft is a gear segment which meshes with a pinion segment. The arm of this pinion segment is connected to the operating rod, which in turn operates the Smashboard semaphore.

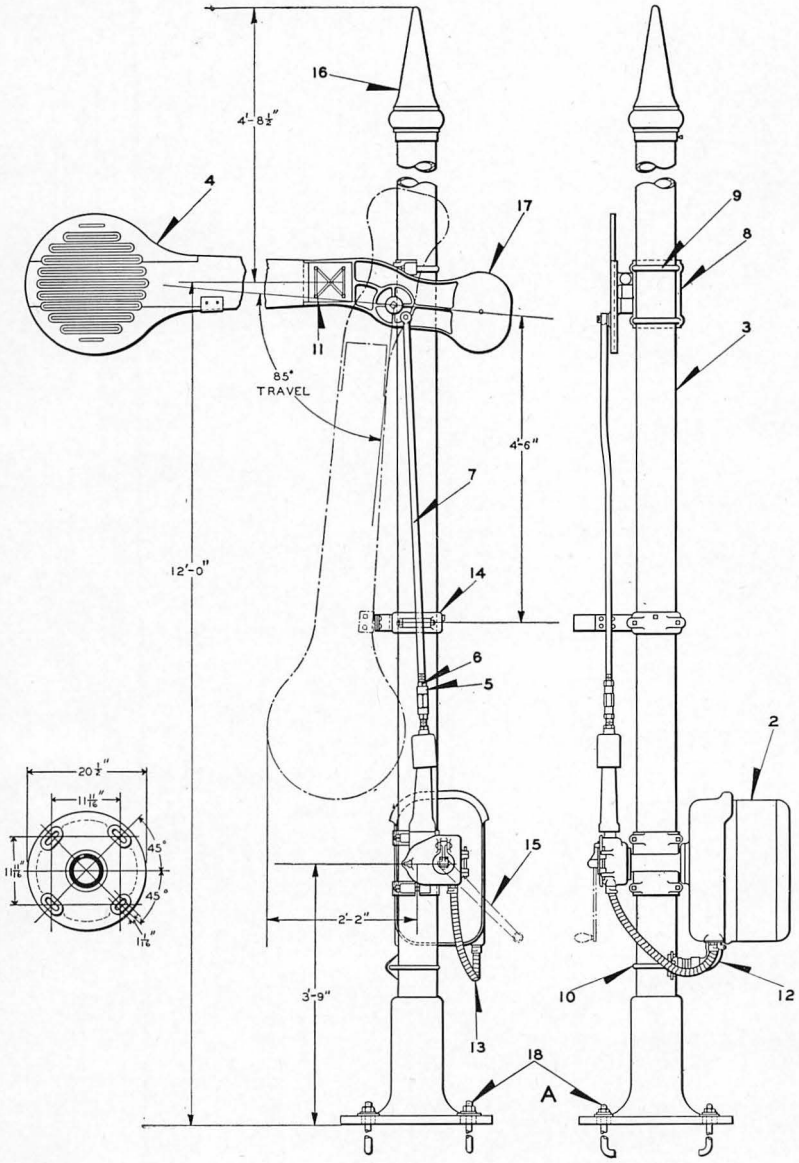
The arm of the pinion segment rests on dead center in both of the two extreme positions. This prevents anyone from changing the aspect of the signal from either the "clear" or "stop" positions by exerting external force against the blade.

To hand operate the signal from "stop" to "clear," the hand operating lever is slipped over the end of the shaft and rotated through the angle required in a counter-clockwise direction as indicated by the arrow on the case door. The hand operating mechanism is so designed that the hand operating crank cannot be inserted in the crank opening and slipped into position on the shaft without opening "cut-out" circuit controller contacts. Since the blade and spectacle ends of the semaphore are nearly balanced, most of the effort necessary to hand operate is exerted to overcome the braking effort, but the leverage obtained through the hand operating crank is sufficient to allow ready operation of the smashboard.

As soon as the hand operating crank is removed the "cut-out" contacts automatically close and the mechanism will operate to the position governed by its controlling circuits.

PLATE B-1500

UNION SWITCH & SIGNAL CO.



ONE ARM, 2-POSITION 0° TO 85° L. H. L. Q.
"T-2" SMASHBOARD SIGNAL

UNION SWITCH & SIGNAL CO.

ONE ARM, 2-POSITION 0° TO 85° L. H. L. Q. "T-2" SMASHBOARD SIGNAL

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**One Arm, 2-Position 0° to 85°, L.H.L.Q. "T-2" D.C. Smashboard Signal** (Motor driven in both directions and arranged for emergency hand operation) With 6″ Pipe Post and Base (Hand Lever Ref. 15 should be ordered separately)	C–9165–4
	Aa	**Necessary Material for applying One Arm, 2-Position 0° to 85° L.H. L.Q. "T-2" D.C. Smashboard Signal** (Motor driven in both directions and arranged for emergency hand operation) to existing 6″ Pipe Post (Inc. 1-2, 1-4, 1-5, 3-6, 1-7, 1-8, 2-9, 1-10, 4-11, 1-12, 1-13, 1-14 and 1-17)	C–9165–4
159807	2	**2-Position, 0° to 85° L.H. L.Q. Style "T-2" Signal Mechanism and Case for 6″ Pipe Post** for Ref. A and Aa (For details refer to Plate B-1510)	B–10391–35
	3	**6″ Pipe Post** with Base, 15′ 2½″ from bottom of base to Top of Post	B–9893
155158	4	**Smashboard Blade 6′ 7″ long** with one priming coat of paint only (If blade is to be painted in color orders should so state specifying color desired)	5672–400
1241	5	**Turnbuckle**	8313–5
53396	6	**1″ Hex. Nut**	8265–9
160262	7	**Up and Down Rod 5′ 8″ long**	B–7722–39
155202	8	**Semaphore Bearing** for 6″ Pipe Post complete with Shaft and Cap	B–9932–24
155375	8a	**Semaphore Bearing Only**	B–9932–10
155186	8b	**Semaphore Shaft**	8026–588
43129	9	**¾″ "U" Bolt** with two ¾″ Hex. Nuts and two ¾″ Plain S. Lock Washers ($\frac{3}{16}$″x$\frac{3}{16}$″) for Ref. 8	8782–65

UNION SWITCH & SIGNAL CO.

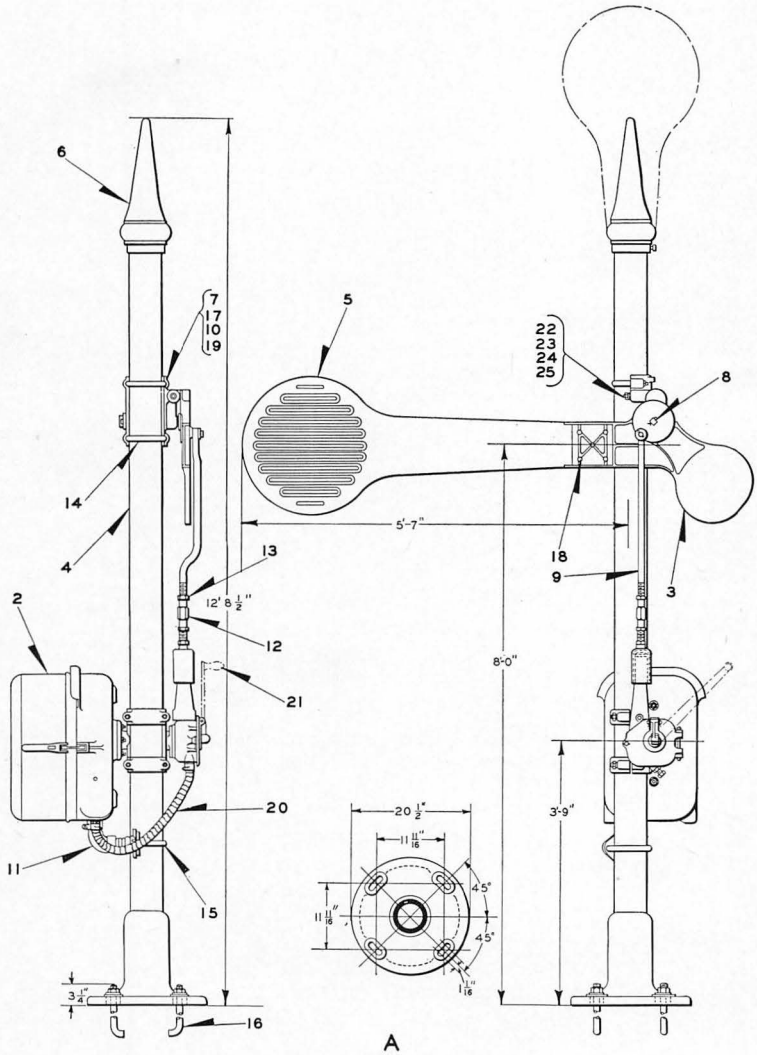
ONE ARM, 2-POSITION 0° TO 85° L. H. L. Q. "T-2" SMASHBOARD SIGNAL (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
60389	**10**	**½" "U" Bolt** with two ½" Hex. Nuts for Ref. 12	8782–109
	11	**Bolt ⅜"x2"** Sq. Hd. with ⅜" Hex. Nut for fastening Ref. 4 to Ref. 17.	
146058	**12**	**Cable Outlet**	B–10342–50
	13	**¾" D.S. Flexible S. Conduit $\frac{13}{16}$" I.D. x 1.148" O.D. 2' 8" long** with two ¾" M. I. Galvanized Box Connectors.	
155388	**14**	**Stop** with two bolts Ref. 14a	B–10326–4
	14a	**Bolt, ¾"x6½"** Sq. Hd. with ¾" Hex. Nut for fastening Ref. 14 to Pole.	
142406	**15**	**Hand Lever**	C–9162–1
	16	**Pinnacle** for 6" Pipe Post	B–8121
159375	**17**	**Left Hand L.Q. Semaphore Casting** with Stud, Washer and $\frac{3}{16}$"x1½" Cotter Pin	C–9231–3
59615	**17a**	**Stud** with $\frac{3}{16}$"x1½" Cotter	8301–46
25063	**17b**	**Washer**	7826–11
10276	**18**	**Foundation Bolt, 1"x3' 0"** with 1" Hex. Nut and 1" Plate Washer	7913–54

PLATE B-1505

UNION SWITCH & SIGNAL CO.



ONE ARM, 2-POSITION 0° TO 90° L. H. U. Q.
D. C. L. V. STYLE "T-2" SMASHBOARD SIGNAL

UNION SWITCH & SIGNAL CO.

ONE ARM, 2-POSITION 0° TO 90° L. H. U. Q. D. C. L. V. STYLE "T-2" SMASHBOARD SIGNAL

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**One Arm, 2-Position (0° to 90°) Left Hand Upper Quadrant D.C. L.V. Style "T-2" Smashboard Signal** (Motor driven in both directions and arranged for emergency hand operation) complete with 5″ Pipe Post and Base (Hand Lever Ref. 21 should be ordered separately)	C–9165–
	Aa	**Necessary Material for applying One Arm, 2-Position (0° to 90°) Left Hand Upper Quadrant D.C. L.V. Style "T-2" Smashboard Signal** (Motor driven in both directions and arranged for emergency hand operation) to existing 5″ Pipe Post	C–9165–
	2	**2-Position, 0° to 90° Left Hand Upper Quadrant, Style "T-2" Signal Mechanism and Case for 5″ Pipe** complete for Refs. A and Aa (For details refer to Plate B-1510)	B–10391–35
142482	**3**	**Left Hand Upper Quadrant Semaphore Casting** with Stud Washer and $\frac{3}{16}$″x1½″ Cotters	C–7298–104
860	**3a**	**Stud** with $\frac{3}{16}$″x1½″ Cotter	8301–1
25063	**3b**	**Washer**	7826–11
146570	**4**	**5″ Pipe Post with Base, 11′ 2½″ long** from bottom of base to top of Post	B–9893–143
119407	**5**	**Smashboard Blade 5′ 4″ long,** with priming coat of paint only, (If blade is to be painted in color orders should specify color desired)	5672–389
68566	**6**	**Pinnacle** with Set Screw	B–8121–11
142747	**7**	**Semaphore Bearing** with Spring Stop Ref. 22	B–6821–46
73823	**8**	**Semaphore Shaft** with Cotter Pin	8026–201
142478	**9**	**Up and Down Rod 2′ 6″ long**	B–7722–36

UNION SWITCH & SIGNAL CO.

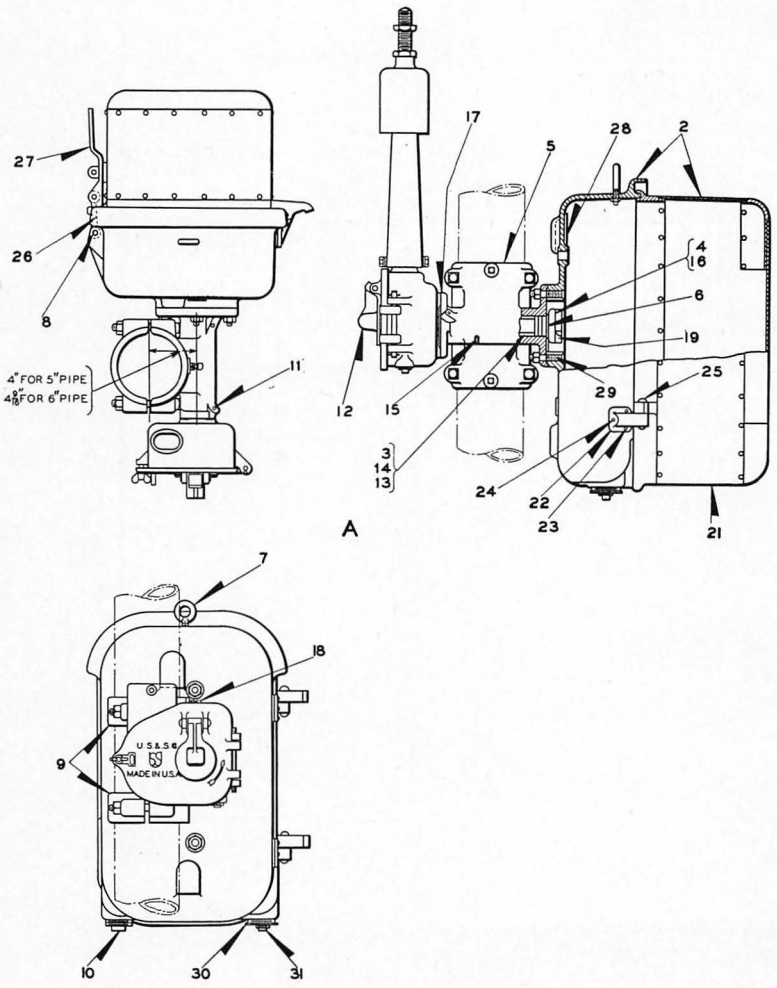
ONE ARM, 2-POSITION 0° TO 90° L. H. U. Q. D. C. L. V. STYLE "T-2" SMASHBOARD SIGNAL (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
61091	**10**	**Cap.** used with Ref. 7	B–9649–2
138049	**11**	**Cable Outlet**	B–10342–50
1241	**12**	**1″ Turnbuckle**	8313–5
53396	**13**	**1″ Hex. Nut**	8265–9
43128	**14**	**¾″ "U" Bolt** with two ¾″ Hex. Nuts	8782–63
69518	**15**	**½″ "U" Bolt** with two ½″ Hex. Nuts	8782–151
10276	**16**	**Foundation Bolt 1″x3′ 0″** with 1″ Hex. Nut and 1″ Plate Washer	7913–54
30069	**17**	**Gasket** for Ref. 7	8078–500
	18	**Bolt, ⅜″x2″** Sq. Hd. with ⅜″ Hex. Nut for fastening Ref. 5 to Ref. 3.	
	19	**Tap Bolt, ½″x1″** Hex. Hd. with ½″ Plain S. Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″).	
	20	**¾″ D.S. Flexible S. Conduit 1$\frac{3}{16}$″ I.D. x 1.148″ O.D. 2′ 8″ long** with two ¾″ M.I. Galvanized Box Connectors.	
142406	**21**	**Hand Lever**	C–9162–1
	22	**Spring Stop,** complete with Bolt, Collar and Coil Spring.	
	23	**Bolt, ⅝″x5″** Sq. Hd. with Washers, Hex. Nut and $\frac{3}{16}$″x1⅛″ Cotter	8277–
33550	**23a**	**Bolt, ⅝″x5″** Sq. Hd. only for Ref. 23	8277–46
42488	**23b**	**Washer** for Ref. 23	7824–1
25452	**24**	**Collar** for Ref. 23	8072–240
44598	**25**	**Coil Spring**	7770–258

PLATE B-1510

UNION SWITCH & SIGNAL CO.



STYLE "T-2" MECHANISM WITH MECHANISM CASE, BEARING, (FOR 5" AND 6" PIPE) AND HAND OPERATING MECHANISM

UNION SWITCH & SIGNAL CO.

STYLE "T-2" MECHANISM WITH MECHANISM CASE, BEARING, (FOR 5″ AND 6″ PIPE) AND HAND OPERATING MECHANISM

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
159807	**A**	**Style "T-2" D.C. L.V. 2-Position 0° to 85° L.H. L.Q. Mechanism** Ref. 2 Plate B-1515 (Motor driven in both directions) with Case, Bearing, and Hand Operating Mechanism (For 6″ Pipe Post)	B–10391–35
	Aa	**Style "T-2" D.C. L.V. 2-Position 0° to 85° L.H. L.Q. Mechanism** Ref. 2 Plate B-1515 (Motor driven in both directions) with Case, Bearing, and Hand Operating Mechanism (For 5″ Pipe Post)	B–10391–35
	Ab	**Style "T-2" D.C. L.V. 2-Position 0° to 90° L.H. U.Q. Mechanism** Ref. 2a, Plate B-1515 (Motor driven in both directions) with Case, Bearing and Hand Operating Mechanism (For 6″ Pipe Post)	B–10391–35
	Ac	**Style "T-2" D.C. L.V. 2-Position 0° to 90° L.H. U.Q. Mechanism** Ref. 2a, Plate B-1515 (Motor driven in both directions) with Case, Bearing and Hand Operating Mechanism (For 5″ Pipe Post)	B–10391–35
160197	**2**	**Mechanism Case** with Bearing and Hand Operating Mechanism for 6″ Pipe for operating L.H. L.Q. or L.H. U.Q. "T-2" Smashboard Signal	C–7581–27
	2a	**Mechanism Case** with Bearing and Hand Operating Mechanism for 5″ Pipe for operating L.H. U.Q. "T-2" Smashboard Signal	C–7581–27
75961	**2b**	**Mechanism Case** with Cover (Without Bearing and Hand Operating mechanism) for Refs. 2 and 2a	C–7581–14
43284	**2c**	**Case only** for Refs. 2, 2a and 2b	C–8079–2
160429	**3**	**Shaft** with $\frac{5}{16}$″x1$\frac{1}{2}$″ S. Cotter for Ref. A	8026–589
	3a	**Shaft** with $\frac{5}{16}$″x1$\frac{1}{2}$″ S. Cotter for Ref. Aa	8026–589
29968	**4**	**Coupling**	C–7554–8

PLATE B-1510

UNION SWITCH & SIGNAL CO.

STYLE "T-2" MECHANISM WITH MECHANISM CASE, BEARING, (FOR 5″ AND 6″ PIPE) AND HAND OPERATING MECHANISM (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

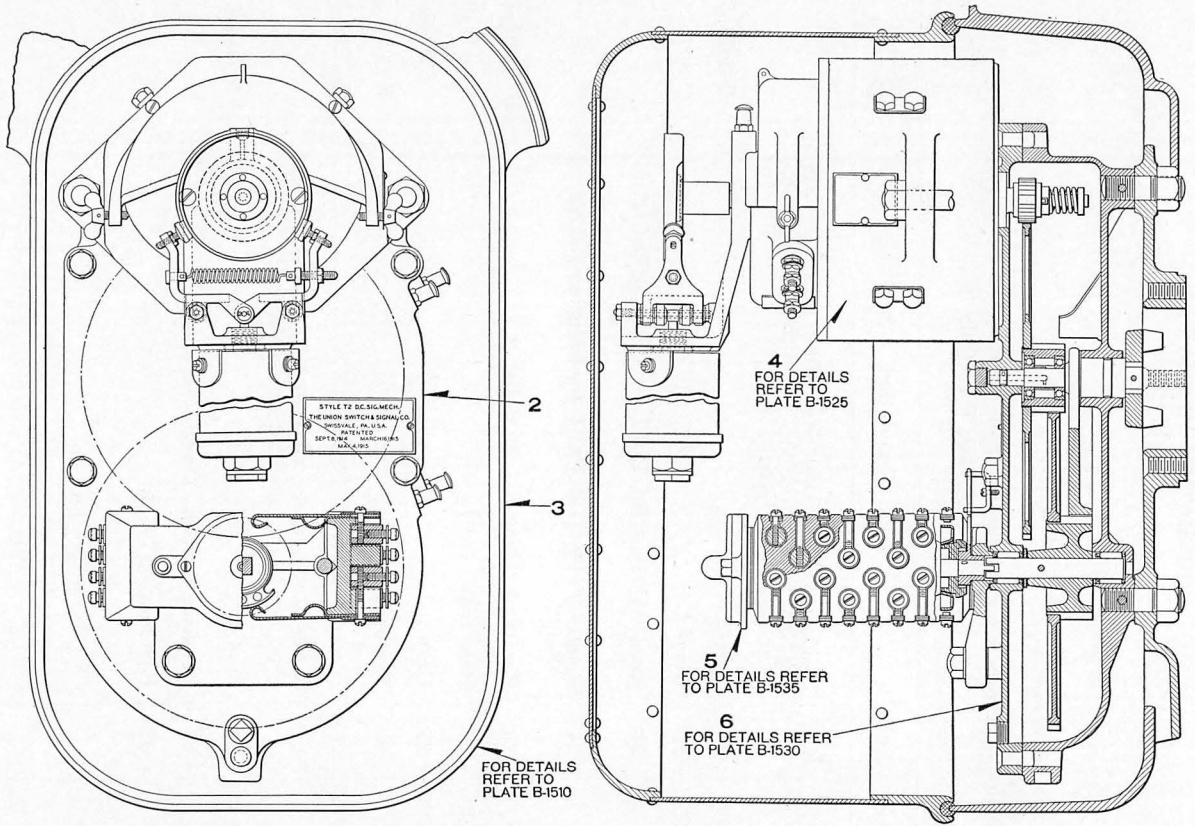
Piece	Ref.	Description	Drawing Reference
145821	**5**	**Bearing** with four Bolts Ref. 5c for Ref. A.....	C–9162–5
142400	**5a**	**Bearing** with four Bolts Ref. 5b for Ref. Aa.....	C–9162–4
	5b	**Bolt, 5/8″x5 1/2″** Sq. Hd. with 5/8″ Hex. Nut for Ref. 5a	
	5c	**Bolt, 5/8″x6 1/4″** Sq. Hd. with 5/8″ Hex. Nut for Ref. 5.	
29748	**6**	**Journal**.....	8093–52
31092	**7**	**Eye Bolt** with 1/2″ Hex. Nut.....	8034–104
47304	**8**	**Pin**.....	B–10207–1
38070	**9**	**Cap** for Ref. 5.....	B–9932–6
28058	**9a**	**Cap** for Ref. 5a.....	B–6821–20
	10	**Pipe Plug, 2″ C. I.**	
	11	**Alemite Fitting, 1/4″** Pipe Thread.	
164329	**12**	**Hand Operating Mechanism** (Driven by motor in both directions) (For details refer to Plate B-1540)	D–2360–2
142408	**13**	**Journal**.....	8093–101
56724	**14**	**Washer**.....	7826–180
	15	**Pipe Plug, 1/4″ C. I.**	
152588	**16**	**Pin** for Ref. 4.....	8097–643
25705	**17**	**Gasket,** used between Hand Operating Mechanism Box and Bearing.....	8078–479
	18	**Set Screw, 5/8″x1 1/2″** Cupped Pt. I.	
43286	**19**	**Shaft Coupling**.....	C–7554–11

UNION SWITCH & SIGNAL CO.

STYLE "T-2" MECHANISM WITH MECHANISM CASE, BEARING, (FOR 5" AND 6" PIPE) AND HAND OPERATING MECHANISM (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	20	**Machine Bolt, 1/2"x1 3/8"** Hex. Hd. S. with 1/2" Plain S. Lock Washer (3/16"x3/32") (Not shown) for fastening Ref. 12 to Bearing.	
68299	**21**	**Cover** for Ref. 2	C–8079–5
44550	**22**	**Hinge Lug**	C–8079–3
	23	**Rivet, 1/4"x1 1/8"** Rd. Hd. I. for fastening Ref. 22 to Ref. 2.	
	24	**Rivet, 1/4"x1 3/8"** Rd. Hd. I. for fastening Ref. 22 to Ref. 2.	
50679	**25**	**Pin** for attaching Ref. 21 to Ref. 2	B–10207–1
46796	**26**	**Hasp Link**	C–8079–6
46795	**27**	**Hasp**	8299–56
21918	**28**	**Ventilator**	B–7318–5
21919	**28a**	**Screen**	B–7318–5
	28b	**Machine Screen No. 10-30x3/8"** Rd. Hd. S. for fastening Refs. 28 and 28a to Ref. 2..	
60767	**29**	**Stud** with 5/8" Hex. Nut	8071–123
	30	**Reducing Bushing, 2"x3/4".**	
	31	**Pipe Plug, 3/4" C. I.**	



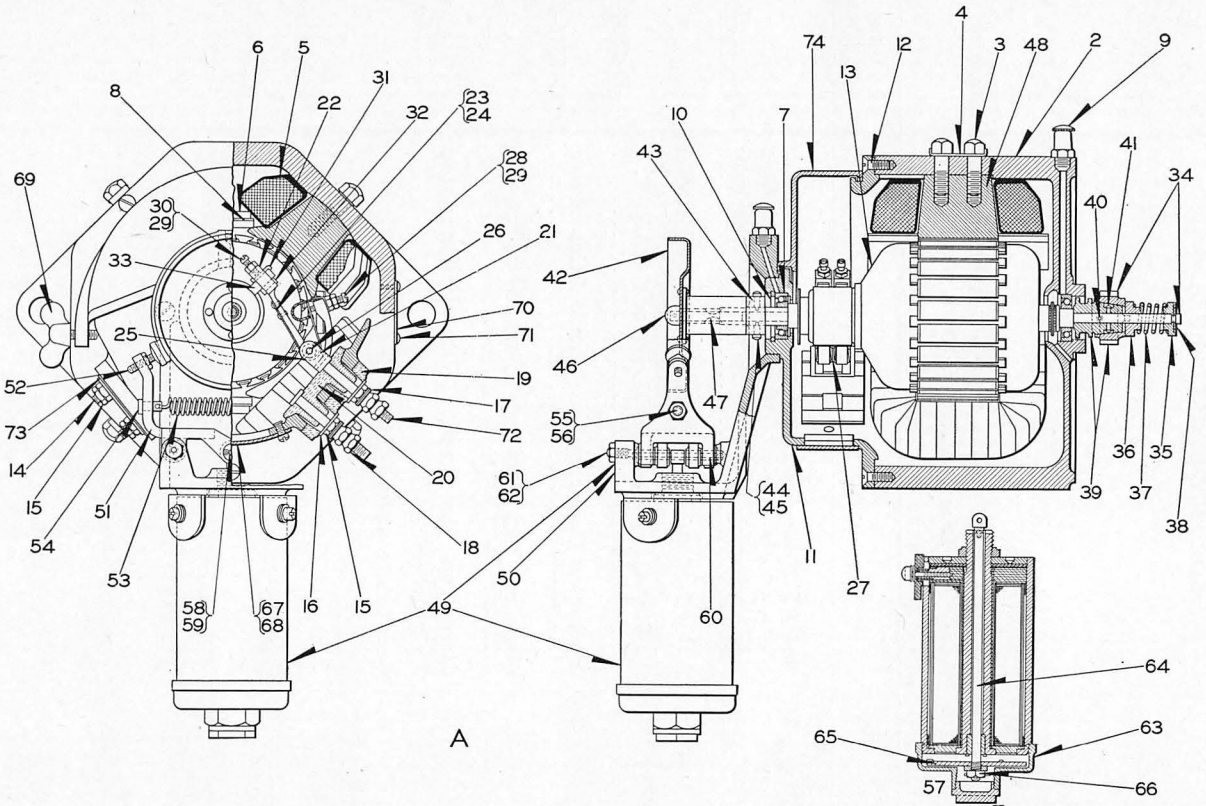
STYLE "T-2" D. C. L. V. MECHANISM FOR SMASHBOARD SIGNALS

UNION SWITCH & SIGNAL CO.

STYLE "T-2" D. C. L. V. MECHANISM FOR SMASHBOARD SIGNALS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
159765	2	**Style "T-2" Mechanism only** with Circuit Controller Ref. Ac Plate B-1535 (without Mechanism Case and Coupling) for 2-Position 0° to 85° L.H. L.Q. Smashboard Signal.....	D–1584–6
	2a	**Style "T-2" Mechanism Only** with Circuit Controller Ref. Ac, Plate B-1535 (Without mechanism Case and Coupling) for 2-Position 0° to 90° L.H. U.Q. Smashboard Signal.....	D–1584–6
	3	**Mechanism Case,** complete (When ordering refer to Plate B-1510).....	C–7581–25
	4	**Motor and Slot** complete (When ordering refer to Plate B-1525).	
	5	**Circuit Controller** complete (When ordering refer to Plate B-1535).	
	6	**Gear Case** complete (For details see Plate B-1530)	



D. C. L. V. MOTOR (10 VOLTS) WITH SPECIAL SLOT
(DETAIL PARTS)

UNION SWITCH & SIGNAL CO.

D. C. L. V. MOTOR (10 VOLTS) WITH SPECIAL SLOT (DETAIL PARTS)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
159683	**A**	**D.C. L.V. Motor** (10 Volts) with Special Slot for L.Q. L.H. or U.Q. L.H. Style "T-2" Smashboard Signal Mechanism (Power driven to clear and danger positions)	C–8026–2
73861	**2**	**Motor Field**	C–8027–11
	3	**Cap Screw, 3/8"-16x1 1/8"** Hex. Hd. S.	
44603	**4**	**Lock Washer** for Ref. 3	8486–181
77643	**5**	**Field Coil**	C–8027–6
125486	**6**	**Filler Pieces**	8750–2111
	7	**Ball Bearing** (Spec. 718).	
125487	**8**	**Spring**	8735–607
	9	**No. 4 Style "D" Oil Cup.**	
45317	**10**	**Spring**	8124–119
74344	**11**	**Front Head**	C–8027–12
	12	**Machine Screw No. 14-24x3/4"** Flat Hd. S. for fastening Ref. 11 to Ref. 2.	
116556	**13**	**Armature** complete	C–8027–14
	14	**Terminal Post** with Nuts (Inc. 1-14a and 2-15)	12451–
40066	**14a**	**Terminal Post only,** for Ref. 14	8094–797
29103	**15**	**Nut**	8109–194
43550	**16**	**Washer**	7828–180

PLATE B-1525

UNION SWITCH & SIGNAL CO.

D. C. L. V. MOTOR (10 VOLTS) WITH SPECIAL SLOT
(DETAIL PARTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
29102	**17**	**Washer**	7828–139
29101	**18**	**Nut**	8109–193
43282	**19**	**Insulation**	8750–1141
43281	**20**	**Insulation**	8750–1140
43266	**21**	**R. H. Support**	C–8027–5
43563	**22**	**Brush Holder**	C–8027–4
73832	**23**	**Flat Spring**	8735–318
37417	**24**	**Rivet** for Ref. 23	10301–21
54929	**25**	**Rivet**	10301–21
43553	**26**	**Pin**	8097–613
44618	**27**	**Washer**	7828–184
43554	**28**	**Screw**	8098–808
28166	**29**	**Nut** for Ref. 28 and 30	8109–192
43555	**30**	**Screw**	8098–809
43564	**31**	**Press Plate**	C–8027–5
43565	**32**	**Press Plate**	C–8027–5
43560	**33**	**Brush**	10332–9
159733	**34**	**Main Shaft** with Pinion, Cone, Sockets and Spring (Inc. 1-34a, 1-35, 1-36, 1-37 and 1-38)	C–8027–15
159566	**34a**	**Main Shaft** with Pinion and Cone (Inc. 1-34b, 1-39, 1-40 and 1-41)	C–8027–15

UNION SWITCH & SIGNAL CO.

D. C. L. V. MOTOR (10 VOLTS) WITH SPECIAL SLOT (DETAIL PARTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
159555	**34b**	**Shaft only**, for Ref. 34a	C–8027–15
44885	**35**	**Spring Socket**	8084–48
44888	**36**	**Spring Socket**	8084–46
44887	**37**	**Coil Spring**	7770–260
44883	**38**	**Key**	C–8027–7
80328	**39**	**Pinion and Cone only** for Ref. 34a	C–8027–10
40002	**40**	**Pin**	8097–474
36833	**41**	**Pin**	8097–279
159567	**42**	**Brake Wheel**	11045–15
159563	**43**	**Coupling Sleeve**	8072–561
44252	**44**	**Pin** for Ref. 45	8097–511
43893	**45**	**Set Screw**	8098–822
43899	**46**	**Oil Cap**	C–8027–7
43892	**47**	**Key** for fastening Ref. 42 to Shaft	9673–25
43562	**48**	**Pole Piece**	C–8027–4
159682	**49**	**Holding Slot** complete (Inc. 1-50, 1-51, 2-52, 1-53, 1-54, 1-55, 1-56, 1-57, 1-58, 4-59, 1-60, 1-61, 1-62, 1-63, 1-64, 1-65 and 1-66)	C–8127–4
158968	**50**	**Brake Support**	C–8027–16
158940	**51**	**Locking Pawl L. H.**	C–8027–15
159544	**51a**	**Locking Pawl R. H.**	C–8027–15

PLATE B-1525

UNION SWITCH & SIGNAL CO.

D. C. L. V. MOTOR (10 VOLTS) WITH SPECIAL SLOT
(DETAIL PARTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
71117	**52**	**Brake Shoe**	8098–272
159530	**53**	**Coil Spring**	8124–166
159557	**54**	**Pin** for Ref. 53	8063–178
159533	**55**	**Adjustment Screw** for Ref. 53	8190–376
93420	**56**	**Nut** for Ref. 55	8265–128
159699	**57**	**Magnet** (1.25 ohms resistance) without Cap, Ref. 63, Armature, Ref. 65, Armature Stem, Ref. 64 and Nut Ref. 66	8342–166
159531	**58**	**Pin** with $\frac{1}{16}$"x$\frac{1}{2}$" Brass Cotter	8097–748
17376	**59**	**Washer** for Ref. 58	7828–66
138014	**60**	**Pin**	8097–938
45196	**61**	**Screw**	8098–504
32140	**62**	**Nut** for Ref. 61	8109–220
134991	**63**	**Cap**	C–1992–8
74450	**64**	**Armature Stem** with $\frac{1}{16}$"x$\frac{1}{2}$" S. Cotter	9595–64
112206	**65**	**Armature**	8157–162
45202	**66**	**Nut** for Ref. 64	8109–15
44600	**67**	**Cover**	C–8027–6
	68	**Machine Screw No. 10-30x$\frac{3}{8}$"** Fil. Hd. S. for Ref. 67.	
73104	**69**	**Thumb Screw**	8331–18
119989	**70**	**Name Plate**	8225–231

UNION SWITCH & SIGNAL CO.

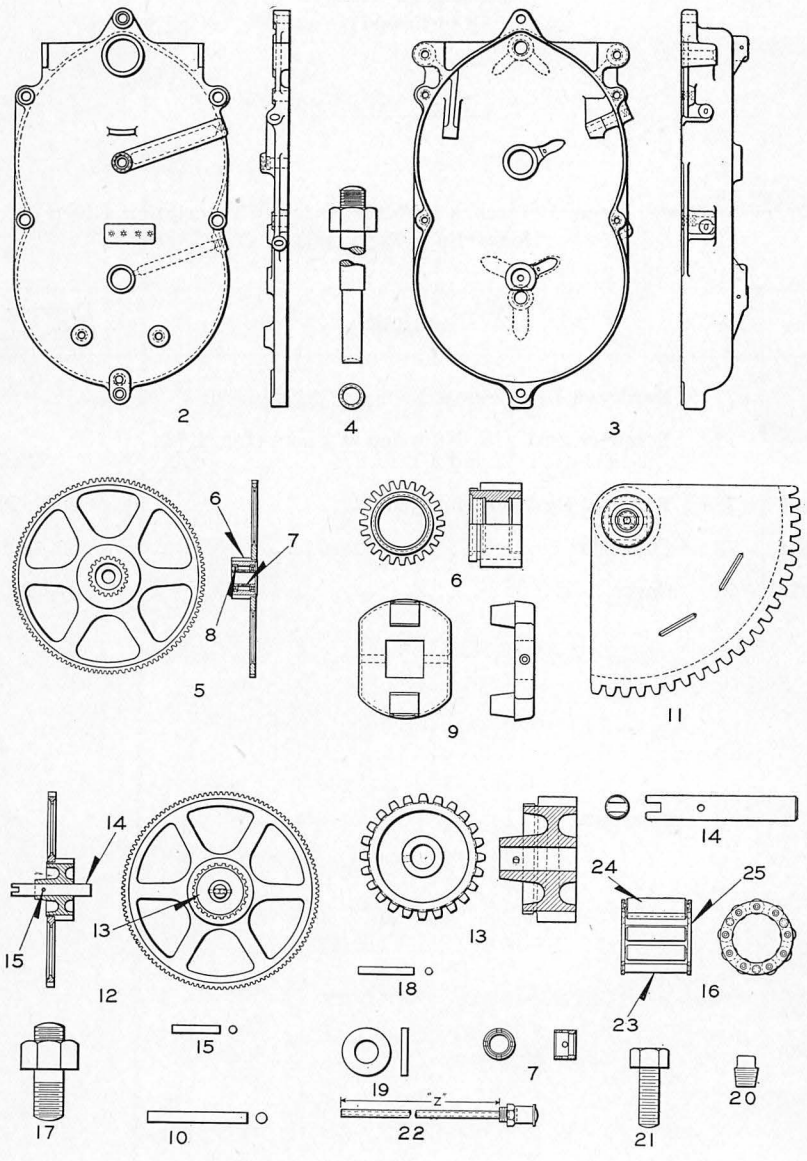
D. C. L. V. MOTOR (10 VOLTS) WITH SPECIAL SLOT (DETAIL PARTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	71	**Hardened Drive Screw No. 6x3/8″** for Ref. 70.	
	72	**Terminal Post** with Nuts and Washers (Inc. 1-72a, 1-15, 1-16, 2-17 and 2-18)	12451
31668	**72a**	**Terminal Post only,** for Ref. 72	8094–706
43551	**73**	**Connector**	8064–286
43274	**74**	**Cover**	C–8027–6

PLATE B-1530

UNION SWITCH & SIGNAL CO.



FRAMES, PLATES, GEARS, PINS, ETC.

UNION SWITCH & SIGNAL CO.

STYLE "T-2" D. C. L. V. MECHANISM DETAIL PARTS

FRAMES, PLATES, GEARS, PINS, ETC.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
68479	**2**	**Front Plate** with two Oil Tubes and Studs Ref. 17	C–8079–7
68480	**3**	**Frame** with two Studs Ref. 4 and Oil Tubes	C–8079–7
	4	**Stud, 5/8"x6 1/4"** with 5/8" Hex. Nut for fastening Motor to Frame	8071–101
	4a	**Hex. Nut 5/8"** for Ref. 4.	
76963	**5**	**Gear** with Pinion and Bushing (Inc. 1-5a, 1-6, 1-7 and 2-8)	8425–189
42230	**5a**	**Gear only** for Ref. 5	8425–115
42232	**6**	**Pinion**	8424–133
44548	**7**	**Bushing**	8350–417
	8	**Bearing** (Class "D") for Ref.7.	
29969	**9**	**Coupling**	C–7554–8
152588	**10**	**Pin** for Ref. 9	8097–643
42231	**11**	**Segment Gear**	8425–116
68478	**12**	**Segment Driver** with Gears, Shaft and Pin (Inc. 1-12a, 1-13, 1-14 and 1-15)	8425–119
42202	**12a**	**Gear only,** for Ref. 12	8425–114
42201	**13**	**Gear only,** for Ref. 12	8425–113
42545	**14**	**Shaft**	C–8079–1
44485	**15**	**Pin** for fastening Ref. 13 to Ref. 14	8097–398
89526	**16**	**Roller Bearing** complete (Inc. 3-23, 9-24 and 2-25)	7490–40

PLATE B-1530

UNION SWITCH & SIGNAL CO.

STYLE "T-2" D. C. L. V. MECHANISM
DETAIL PARTS
(Continued)

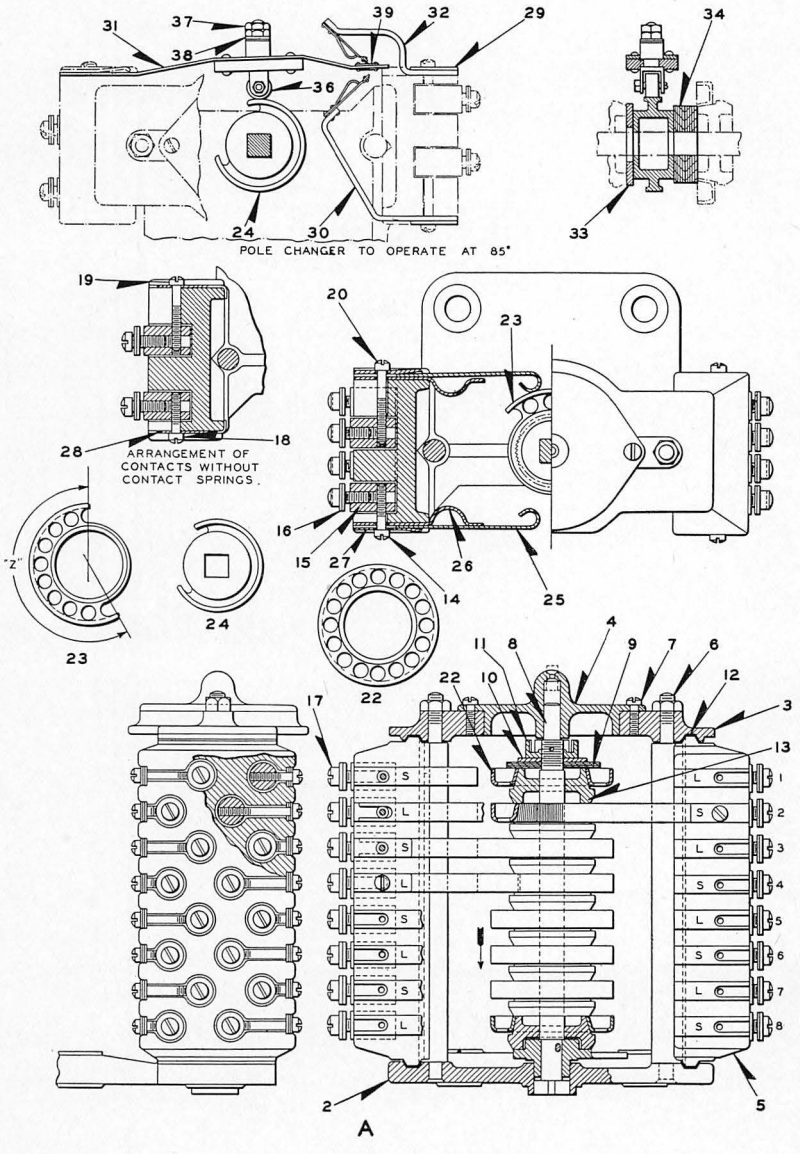
FRAMES, PLATES, GEARS, PINS, ETC.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
44705	**17**	**Stud** with ¾″ Hex. Nut for fastening Frame to Mechanism Case	8261–95
	17a	**Hex. Nut,** ¾″ for Ref. 17.	
45943	**18**	**Pin,** for fastening Ref. 17 to Ref. 3	8097–406
44522	**19**	**Washer** for Ref. 14	8112–66
	20	**Pipe Plug,** ⅜″ **C. I.**	
	21	**Cap Screw,** ½″x1½″ Hex. Hd.	
98481	**22**	**Oil Tube** with Cap, "Z" dim. 4 13/16″ for lower bearing in Front Plate	C–8079–4
98480	**22a**	**Oil Tube** with Cap, "Z" dim. 5 1/16″ for upper bearing in Front Plate and Frame	C–8079–4
98482	**22b**	**Oil Tube** with Cap, "Z" dim. 5 5/16″ for lower bearing in Frame	C–8079–4
84147	**23**	**Stay Rod**	8097–1031
84146	**24**	**Roller**	8097–1031
89527	**25**	**End Plate**	7490–40

PLATE B-1535

UNION SWITCH & SIGNAL CO.



CIRCUIT CONTROLLER

UNION SWITCH & SIGNAL CO.

STYLE "T-2" D. C. L. V. MECHANISM
DETAIL PARTS

CIRCUIT CONTROLLER

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Circuit Controller Complete									
		Contacts and Segments							Drawing Reference
Piece	Ref.	Contact Space on Circuit Controller							
		1	2	3	4	5	6	7	8	
145905	**A**	Seg. Ref. 22	Seg. Ref. 23a	Seg. Ref. 23	Seg. Ref. 23b	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23b	B–11001–8
147685	**Aa**	Seg. Ref. 23	85° pole changer Seg. Ref. 24		Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23b	Seg. Ref. 23	Seg. Ref. 23b	B–11001–8
155294	**Ab**	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 22	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23b	B–11001–8
159505	**Ac**	Seg. Ref. 22	Seg. Ref. 22	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23c	Seg. Ref. 23c	B–11001–8
164149	**Ad**	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23	Seg. Ref. 23b	Seg. Ref. 23b	Seg. Ref. 22	Seg. Ref. 23b	B–11001–9

Piece	Ref.	Description	Drawing Reference
42590	**2**	**Back Plate** with two Studs Ref. 6 and two Hex. Nuts	C–8005–2
44179	**3**	**Front Plate**	C–8005–2
44180	**4**	**Front Bearing**	C–8005–2
41868	**5**	**Terminal Block Only**	9968–223
42582	**6**	**Stud,** $\frac{1}{2}$"x8$\frac{5}{16}$" with $\frac{1}{2}$" Hex. Nut for Ref. 2	8115–81

UNION SWITCH & SIGNAL CO.

STYLE "T-2" D. C. L. V. MECHANISM
DETAIL PARTS
(Continued)

CIRCUIT CONTROLLER

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	7	**Machine Screw No. 10-30x½"** Fil. Hd. S. (Cad. Pl.) for fastening Ref. 4 to Ref. 3.	
74407	**8**	**Shaft** with Cam and Pin	9956–14
46192	**8a**	**Cam** for Ref. 8	A–2489–24
44756	**8b**	**Pin** for fastening Ref. 8a to Ref. 8	8097–403
42585	**9**	**Washer**	8078–596
42627	**10**	**Washer**	7826–117
50258	**11**	**Nut** with ⅛"x1½" S. Cotter	8109–297
117782	**12**	**Gasket**	8078–1268
42662	**13**	**Insulation**	8750–1106
	14	**Machine Screw No. 10-30x⅞"** Fil. Hd. S. (Cad. Pl.).	
42586	**15**	**Terminal Post**	8094–854
29102	**16**	**Washer**	7828–139
	17	**Machine Screw No. 14-24x⅝"** Fil. Hd. Br. (N. P.).	
	18	**Machine Screw No. 10-30x¾"** Fil. Hd. Br. (Cad. Pl.)	
	19	**Machine Screw No. 10-30x1⅜"** Fil. Hd. S.	
	20	**Machine Screw No. 10-30x1½"** Fil. Hd. S. (Cad. Pl.).	
56203	**21**	**Washer** (For Aligning Segments) (Not Shown)	8078–962
42673	**22**	**Blank Contact Segment**	8429–62
52775	**23**	**Segment, "Z"** dim. 69°	8249–62

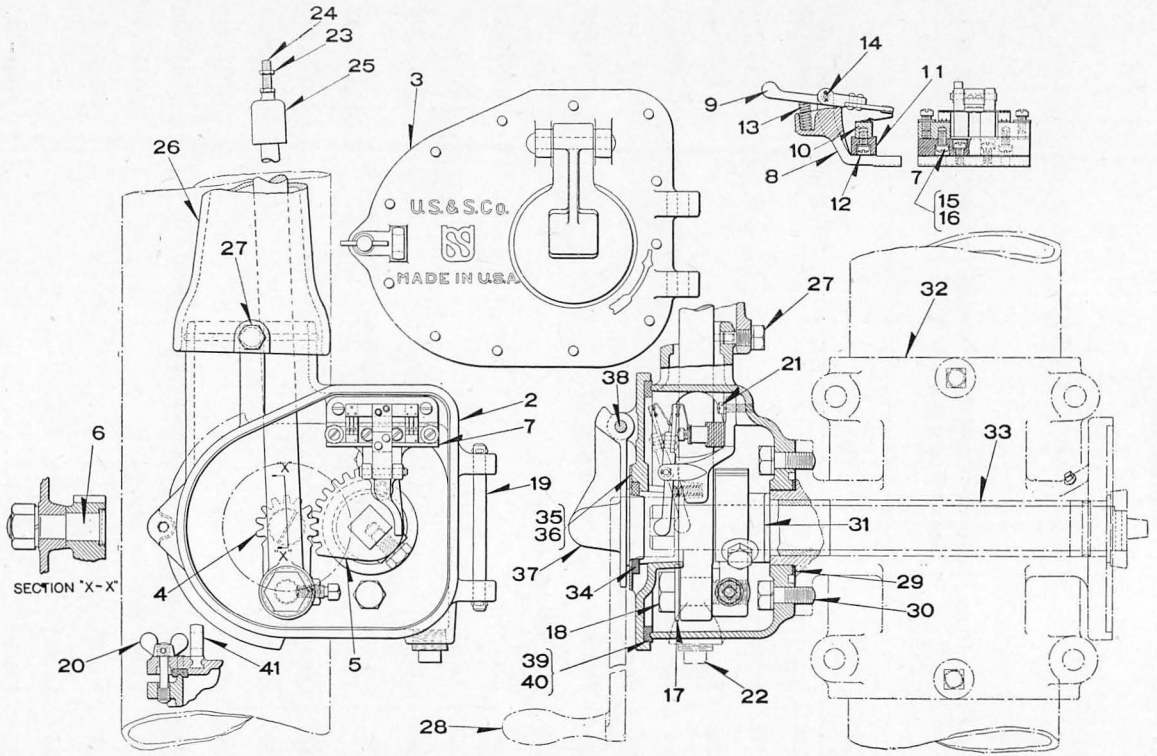
UNION SWITCH & SIGNAL CO.

STYLE "T-2" D. C. L. V. MECHANISM
DETAIL PARTS
(Continued)

CIRCUIT CONTROLLER

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
52192	**23a**	**Segment,** "Z" dim. 45°	8429–62
44774	**23b**	**Segment,** "Z" dim. 330°	8429–62
48417	**23c**	**Segment,** "Z" dim. 290°	8429–62
69339	**24**	**Segment** 265° for Pole changer to operate at 85°	C–8003–5
42587	**25**	**Contact Spring**	8385–1165
45269	**26**	**Flat Spring** used with Ref. 25	8735–344
42625	**27**	**Flat Spring**	8735–286
47833	**28**	**Flat Spring**	8735–356
76137	**29**	**Reinforcing Spring**	8735–533
76139	**30**	**Contact Spring** for Pole Changer	8385–1796
76140	**31**	**Contact Spring** with Roller, Insulation, Bushing and Nuts for Pole Changer	8385–1802
76136	**32**	**Contact Spring** for Pole Changer	8385–1792
25064	**33**	**Washer**	7826–13
55140	**34**	**Washer**	8078–961
47290	**35**	**Connector** (Not shown) for Pole Changer	8064–305
76128	**36**	**Roller only,** for Ref. 31	8072–557
26545	**37**	**Nut** for Ref. 31	8109–181
	38	**Lock Washer No. 10x1/8"x3/64"** Plain.	
36066	**39**	**Contact Tip** for Ref. 31	8341–137



HAND CRANK OPERATING MECHANISM FOR STYLE "T-2" SMASHBOARD SIGNAL

UNION SWITCH & SIGNAL CO.

HAND CRANK OPERATING MECHANISM FOR STYLE "T-2" SMASHBOARD SIGNAL

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
164329	**A**	**Hand Crank Mechanism** for L.H.U.Q. or L.H.L.Q. "T-2" Smashboard Signal (Without Shaft Ref. 33 and Bearing Ref. 32)	D–2360–2
159989	**2**	**Hand Crank Mechanism Box only,** for Ref. A	C–9162–6
160056	**3**	**Box Cover** with Retainer Ring, Gaskets, Screws and Rivets for Ref. 2 (Inc. 1-3a, 1-34, 1-35, 6-36, 1-37, 1-38, 1-39 and 12-34)	C–9162–7
160055	**3a**	**Box Cover only,** for Ref. 3	C–9162–3
160228	**4**	**Pinion Segment** with Set Screw and $\frac{3}{8}$″ Hex. Jam Nut	8424–250
	4a	**Set Screw, $\frac{3}{8}$″x1″** with $\frac{3}{8}$″ Hex. Jam Nut for Ref. 4.	
160428	**5**	**Gear Segment** with Pivot Screw and $\frac{1}{2}$″ Plain S. Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″)	8424–217
142474	**5a**	**Pivot Screw** with $\frac{1}{2}$″ Plain S. Lock Washer	8378–346
160253	**6**	**Stud** with $\frac{3}{4}$″ Hex. Nut and $\frac{3}{4}$″ Plain S. Lock Washer ($\frac{1}{4}$″x$\frac{1}{8}$″)	8301–59
160326	**7**	**Cutout Circuit Controller** complete (Inc. 1-8, 1-9, 2-10, 1-11, 1-12, 1-13, 1-14, 4-15 and 4-16)	C–9162–7
160307	**8**	**Bracket**	C–9162–7
160318	**9**	**Pawl** complete with Contact Springs	9121–137
160239	**10**	**Terminal Block**	8094–2243
160316	**11**	**Insulating Block**	8750–2360
160314	**12**	**Insulating Strip**	8750–2362
32323	**13**	**Coil Spring**	7770–208

PLATE B-1540

UNION SWITCH & SIGNAL CO.

HAND CRANK OPERATING MECHANISM FOR STYLE "T-2" SMASHBOARD SIGNAL (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
160312	**14**	**Pin** with $\frac{1}{16}$"x$\frac{3}{8}$" S. Cotter	8097–541
	15	**Machine Screw No. 14-24x½"** Fil. Hd. Br.	
37764	**16**	**Washer** for Ref. 15	7828–166
25063	**17**	**Washer** for Ref. 18	7826–11
160252	**18**	**Bolt**	8832–135
142413	**19**	**Pin** with two ⅛"x¾" S. Cotters	B–10209–1
88086	**20**	**Wing Nut**	8331–28
	21	**Machine Screw No. 14-24x⅞"** Fil. Hd. S. with ¼" Plain S. Lock Washer (⅛"x$\frac{1}{16}$") for fastening Ref. 7 to Ref. 2.	
	22	**Pipe Plug, ¾" C. I.**	
34048	**23**	**Hex. Nut 1"**	8265–9
160263	**24**	**Connecting Rod**	B–7722–39
160208	**25**	**Hood**	C–9162–8
160207	**26**	**Weather Casing**	C–9162–8
142474	**27**	**Pivot Screw** with ½" Plain S. Lock Washer ($\frac{3}{16}$"x$\frac{3}{32}$")	8378–346
142406	**28**	**Hand Lever**	C–9162–1
25705	**29**	**Gasket**	8078–479
	30	**Bolt, ½"x1⅜"** Hex. Hd. S. with ½" Plain S. Lock Washer ($\frac{3}{16}$"x$\frac{3}{32}$").	
142408	**31**	**Journal**	8093–101

UNION SWITCH & SIGNAL CO.

HAND CRANK OPERATING MECHANISM FOR STYLE "T-2" SMASHBOARD SIGNAL (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
145821	**32**	**Mechanism Bearing** for 6″ Pipe	C–9162–5
142400	**32a**	**Mechanism Bearing** for 5″ Pipe	C–9162–4
160429	**33**	**Semaphore Shaft**	8026–589
	34	**Black Felt, 3/8″x3/8″x7 7/8″ long** for Ref. 37.	
145959	**35**	**Retaining Ring**	11893–372
	36	**Machine Screw No. 10-30x3/8″** Flat Hd. S. for Ref. 35	
142403	**37**	**Crank Operating Cover**	C–9162–4
	38	**Rivet, 3/8″x2 1/2″** Rd. Hd. I. for fastening Ref. 37 to Ref. 3.	
	39	**Hemp Packing, 1/4″x1/2″x2′ 4″ long** for Ref. 3.	
	40	**Rivet, 9/64″x3/4″** Brass for fastening Ref. 39 to Ref. 3.	
56139	**41**	**Hasp**	8191–1

Section

B

SIGNALS

Position Light Signals

Union Switch & Signal Co.

Swissvale, Pa.

June, 1929

Printed in U. S. A.

Remove Staple Before Filing Pages in Loose Leaf Cover

PREFACE

A system of cataloging necessitates very liberal assignment of plate numbers to permit of future listing of parts logically and in harmony with past practice. The Sectional loose-leaf system adopted by this Company in 1911, although meeting most demands, does not allow of sufficient expansion. All catalogs issued from December 1920 will be compiled on a new method of classification of apparatus. Piece numbers will be an important feature of the ordering reference.

Part catalogs will be printed as soon as possible after new material is developed or old material is redesigned, and ultimately the information given in pamphlet form will be reprinted and grouped under proper classifications in loose-leaf binders. Old catalogs will remain in vogue until they are completely incorporated under the new system. It will be noted in the following classification outline that material cataloged in former sections A, B and C will retain the same prefix letter; but will form a subdivision of a more general classification.

MAIN CLASSIFICATIONS

Section

A—Interlocking Machines.
B—Signals.
C—Switch and Lock Movements, Layouts and Ground Material.
D—
E—Relays, Indicators and Locks.
F—Transformers, Reactors, Resistors and Impedence Bonds.
G—
H—
I—
J—Circuit Controllers.
K—Highway Crossing Protective Devices.
L—Housings.
M—Insulated Rail Joints.
N—Automatic Train Control and Stops.
O—
P—Bond Wires, Trunking, Lightning Arresters, Terminals, Electro-Pneumatic Fittings, and Accessories. (Power Generators and Distributing Apparatus.)
R—Car Retarders.
S—Rectifiers.

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Position Light Signals

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POSITION LIGHT SIGNALS

Position light signals present aspects and give indications by means of rows of lights corresponding to the positions occupied by the blades of semaphore signals; light indications being visible during both day and night.

Types:

Both high and dwarf position light signals are available. The high signals may be mounted upon a ground mast, a signal bridge or a bracket post. The dwarf signals may be mounted upon a foundation or by means of a wall bracket.

Aspects and Indications:

A high signal may give indications of one arm, one arm with marker, two arm, or any other combination desired. Dwarf signals ordinarily provide indications of but one arm. Each blade equivalent may be made to assume one, two, three or four distinct positions. A typical scheme of aspects and indications illustrating the flexibility of the position light signal is shown on the next page.

Detail Design:

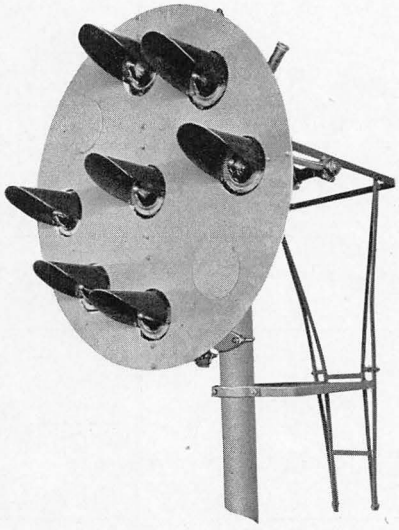
The position light high signal is comprised of rows of light units, each consisting of three units mounted on pipe supports extending radially from a central hub, all being applied to a 5″ pipe mast. A background is also provided.

The background is of maximum effectiveness for minimum size and weight. It is made of sheet iron and is held in fixed relation to its pipe supports by means of substantial brackets. The supports are of pipe, threaded and fitted into a hub casting. Cast iron lamp units are mounted on the pipe supports in such manner that the hoods project through the circular holes in the background. The lamp units are mounted on 18″ center lines, radially. Cover plates are used for blanking out openings in the background not required for a given set of indications.

POSITION LIGHT SIGNAL.

	ASPECTS. HIGH	ASPECTS. DWARF	INDICATIONS.	NAME.
1			Stop	Stop Signal.
2			Stop-Then proceed at slow speed with caution.	Stop and Proceed Signal.
3			Proceed at slow speed prepared to stop.	Slow Speed Signal.
4			Proceed with caution prepared to stop short of train or obstruction.	Permissive Signal.
5			Proceed at slow speed with caution prepared to stop short of train or obstruction.	Caution Slow Speed Signal.
6			Proceed at restricted speed.	Clear Restricting Signal.
7			Approach next signal prepared to stop.	Approach Signal.
8			Approach next signal at restricted speed.	Approach Restricting Signal.
9			Proceed	Clear Signal.
10			Proceed at slow speed	Clear Slow Speed Signal.
11			Approach home signal with caution.	Caution Signal
12			Take Siding.	Take Siding Indicator.

5-29



POSITION LIGHT SIGNAL
(Front View)

The signals are attached to the mast by means of U-bolt clamps. A standard signal platform with an extended hand rail and standard ladder provides ready access to the lamp units and terminal box. The lamp units of bridge signals are so located as to make ladders and platforms unnecessary.

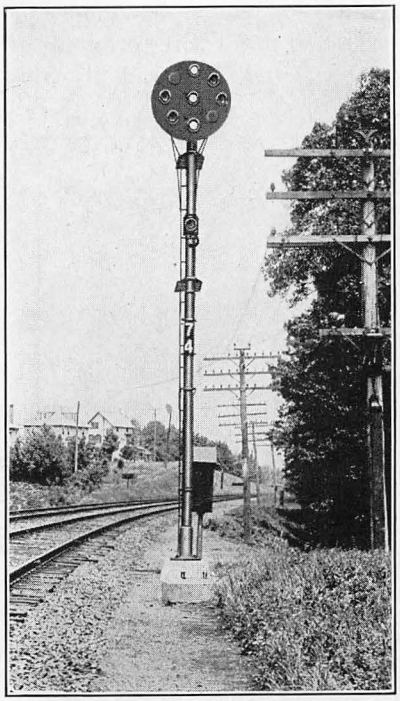
All parts are accessible, side doors being provided on both sides of the lamp units. These are opened by merely turning thumb screws. All wires are brought to terminals in a centrally located terminal box which is provided with easily opened doors. A flexible conduit connector provides for changes in signal alignment without interference with wiring. The complete signal unit is assembled, ready for clamping to the signal mast prior to shipping; all lamp units being connected by insulated wires to terminals in the terminal box.

Lamp Unit:

The lamp unit consists of a cast iron case having a door on either side. Each unit has a separate supporting bracket being attached thereto by four bolts. These bolts provide for universal adjustment in aligning the lamp, through the medium of a ball and socket joint. A 5⅜" inverted toric lens is supplemented by a cover glass of special "no-glare" composition which gives the light transmitted a slight yellowish tinge, rendering it more distinct and providing greater fog penetration. But one lamp is required for each lens. Should one lamp in any line burn out, there still remain two luminous units which provide a satisfactory signal indication. A mirror reflector is mounted so as to deflect some of the rays of light downward thus providing a good short range indication. This effect is further aided by the use of a toric lens. Phantom indications are avoided by the use of the conical cover glass which has a frosted tip, and the paint-

ing black of a portion of the inside lens surface steps. A sheet iron hood shields the lens from the direct rays of the sun.

The lamp receptacle is accurately located by jig and cemented in place in order that lamps which have their filaments properly located with respect to the lamp bases can be used interchangeably. The lamp filament is ¼ inch long and is disposed horizontally at right angles to the optical axis. The lamps are specially based thus allowing renewal without adjustment of lamp unit or lens. The lamps are normally burned considerably under their rated voltage in order to provide long life. The ratings of these lamps are given below:



POSITION LIGHT HIGH GROUND SIGNAL

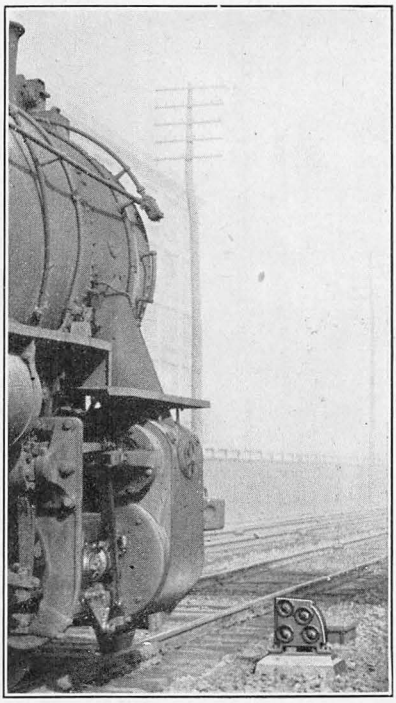
LAMPS FOR POSITION LIGHT SIGNALS

	Per Lamp				
	Rated			Recommended	
	Volts	Watts	C. P.	Volts	Watts
High Signal.....	12.0	7.5	7	11.0 to 11.5	6.3 to 6.9
Dwarf Signal....	6–8.0	16.8	21	4.0	5.5

High signals require three lamps burning.
Dwarf signals require two lamps burning.

Dwarf Signal:

The dwarf signal consists of a single cast iron case with four openings for lenses. By means of doors on two sides, ready access can be had to all wire terminals and lamps. The lenses are located on $8\frac{1}{16}$" center lines, radially from the pivot unit.



POSITION LIGHT DWARF SIGNAL

This signal is ordinarily given a bias in mounting to favor the engineman who, in his cab, is considerably above the horizontal plane in which the dwarf signal is located. On account of a short range only being required of dwarf signals, no particular attempt is made to secure an accurate location of the lamp with respect to its lens. The lens is frosted in order to provide a better diffusion of light.

Power Supply:

Power for a light signal installation is ordinarily obtained in the form of alternating current. There are several reasons for using this in connection with railway signaling. The advantages in many cases warrant the installation of a transmission line so that power for the illumination of position light signals is often available without any additional expense being assumed. Energy may then be supplied the position light signals by simply installing transformers at the required locations.

In the few sections where a satisfactory source of alternating current power is not available, it may prove necessary to supply energy for position light signals from primary or storage batteries. It is well known that battery energy is considerably more expensive than is alternating current, and for this reason, control circuits

should be installed providing for the light signal to be illuminated only upon the approach of trains. This circuit is simple and can be installed without any very great additional expense.

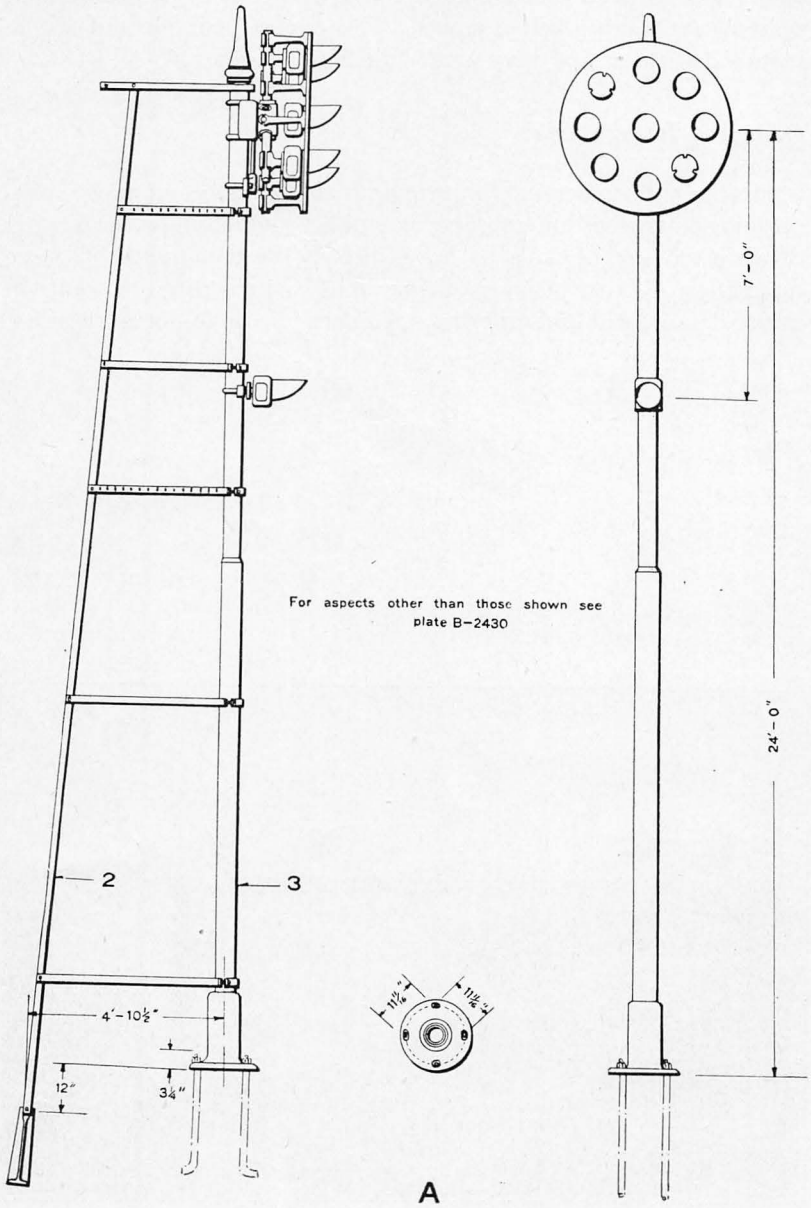
Ordering References:

In the catalog section following, an effort has been made to give ordering references for complete assemblies and details of such types of position light signals as have already been supplied in large quantities. Those using position light signals differing only in minor details, will find ordering references for the majority of parts.

POSITION LIGHT SIGNALS

PLATE B-2401

UNION SWITCH & SIGNAL CO.



A

ONE ARM POSITION LIGHT GROUND SIGNAL

UNION SWITCH & SIGNAL CO.

ONE ARM POSITION GROUND SIGNALS, COMPLETE ASSEMBLIES

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

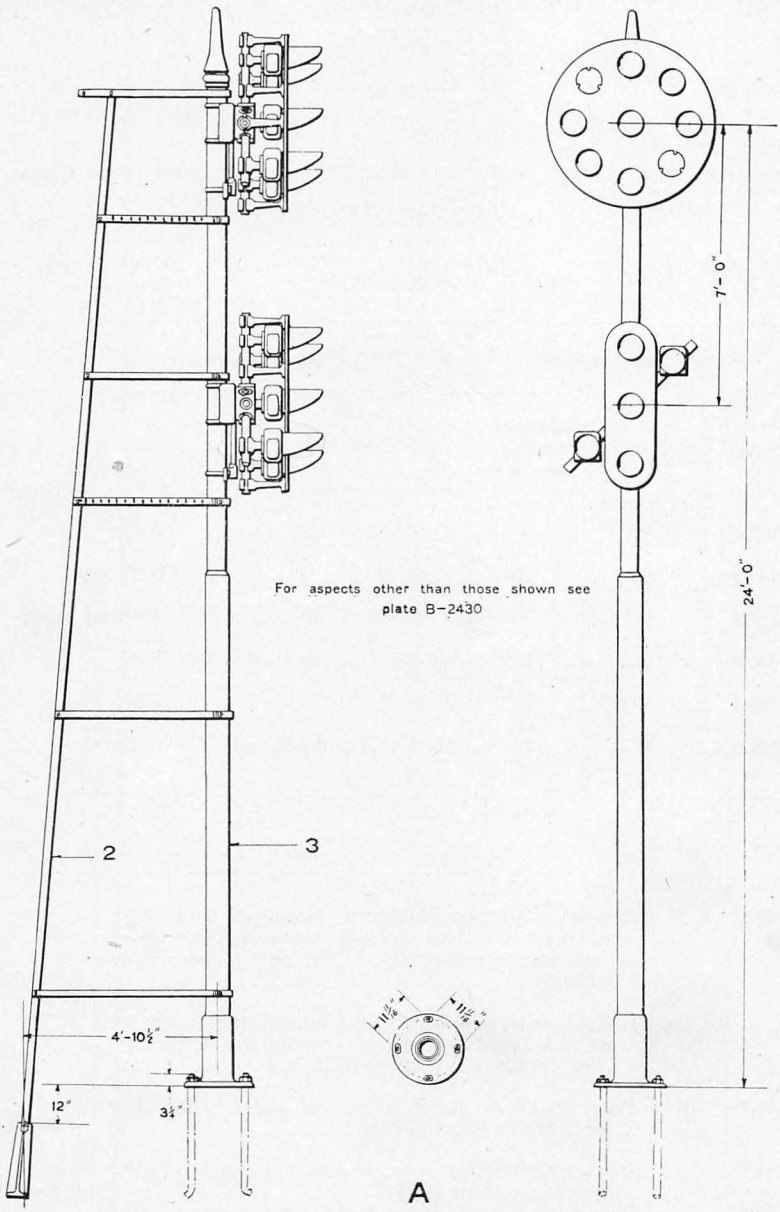
One Arm Assemblies, Complete with Fittings. Dwg. C-8966—Sh. 7

Piece	Reference	Aspect Plate B–2430	Indication	Marker Light	Remarks
116584	**A**	A	0°-45°-90° U. Q.	With	
117110	**A-1**	A	0°-45°-90° U. Q.	Without	
117903	**A-2**	B	0°-45°-90° L. Q.	Without	
118390	**A-3**	C	45°-90° U. Q. and 45° L. Q.	With	
118391	**A-4**	D	0°-45° U. Q.	With	
118393	**A-5**	E	45° U. Q. and 45° L. Q.	With	

Piece	Ref.	Description	Drawing Reference
116619	**2**	**Ladder,** with two Platforms, Handrails and Stays as shown for Refs. A, A-3, A-4 and A-5. Order foundations separately. (For details, see Plate B-2446)	B–10313–280
	2a	**Ladder,** with one Platform, Handrail and Stays for Refs. A-1 and A-2. Order foundations separately. (For details, see Plate B-2446)	B–10313
116587	**3**	**Post,** with Base, for Refs. A, A-3, A-4 and A-5. (For details, see Plate B-2443)	B–9893–80
116587	**3**	**Post,** with Base, for Refs. A, A-3, A-4 and A-5. (For details ,see Plate B-2443)	B–9893–80
117111	**3a**	**Post,** with A. R. A. Base for Refs. A-1 and A-2. (For details, see Plate B-2443)	B–9893–80

PLATE B-2405

UNION SWITCH & SIGNAL CO.



TWO ARM POSITION LIGHT GROUND SIGNAL

UNION SWITCH & SIGNAL CO.

TWO ARM POSITION LIGHT GROUND SIGNALS, COMPLETE ASSEMBLIES

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

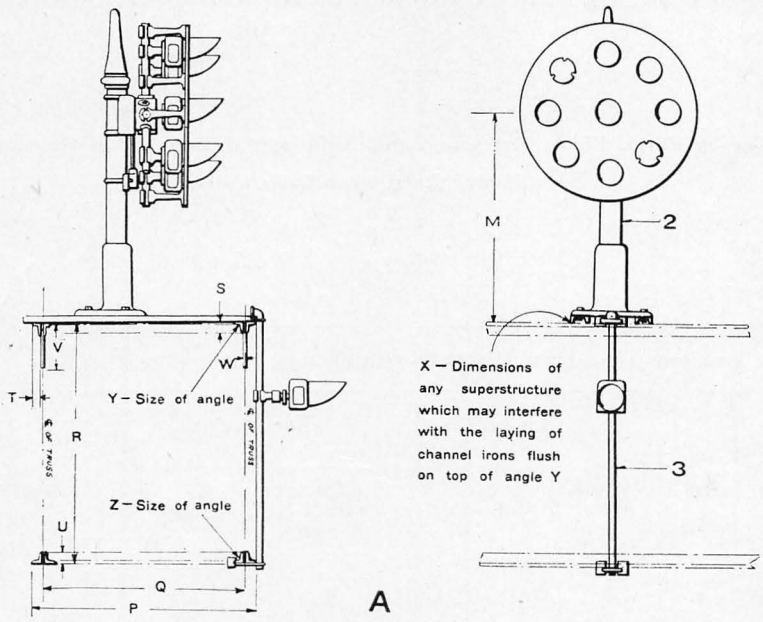
Two Arm Assemblies, Complete with Fittings. Dwg. C-8966—Sh. 8

Piece	Ref.	Top Arm		Bottom Arm		Remarks
		Aspect Plate B–2430	Indication	Aspect Plate B–2430	Indication	
116585	**A**	A	0°-45°-90° U. Q.	K	45° U. Q.	
117269	**A-1**	A	0°-45°-90° U. Q.	J	45°-90° U. Q.	
117271	**A-2**	A	0°-45°-90° U. Q.	L	90° U. Q.	
118387	**A-3**	F	0°	J	45°-90° U. Q.	
118388	**A-4**	F	0°	K	45° U. Q.	
118389	**A-5**	D	0°-45° U. Q.	J	45°-90° U. Q.	
118392	**A-6**	C	45°-90° U. Q. 45° L. Q.	L	90° U. Q.	

Piece	Ref.	Description	Drawing Reference
116619	**2**	**Ladder,** with Handrails, Platforms and Stays as shown. Order foundation separately. (for details see Plate B-2446)	B–10313–280
116588	**3**	**Post,** with A. R. A. Base for Signal as shown. (For details, see Plate B-2443)	B–9893–80

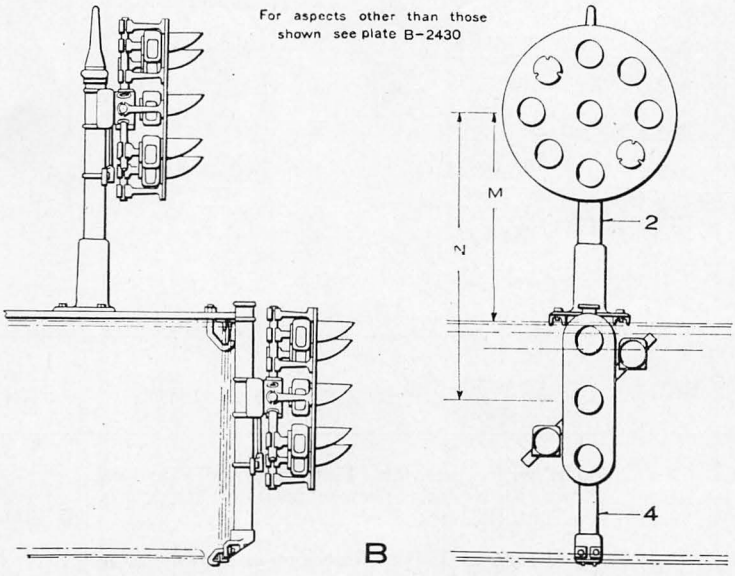
PLATE B-2410

UNION SWITCH & SIGNAL CO.



A

For aspects other than those shown see plate B-2430



B

ONE AND TWO ARM POSITION LIGHT BRIDGE SIGNALS

UNION SWITCH & SIGNAL CO.

ONE AND TWO ARM POSITION LIGHT BRIDGE SIGNALS, COMPLETE ASSEMBLIES

When Mounting Fittings are Wanted Please Supply Dimensions P to Z also Specify M and N Dimensions

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

..... **Arm Assemblies,** Complete with Fittings (Specify M and N Dimensions)

Piece	Ref.	Top Arm		Bottom Arm		Dwg. C8966 Sh.	Remarks
		Aspect Plate B-2430	Indication	Aspect Plate B-2430	Indication		
	A	A	0°-45°-90° U. Q.	Q	Marker Light	10	
	A-1	B	0°-45°-90° L. Q.	Q	Marker Light		
	A-2	A	0°-45°-90° U. Q.		Without Marker		
	B	A	0°-45°-90° U. Q.	L	90°		
	B-1	A	0°-45°-90° U. Q.	J	45°-90° U. Q.		
	B-2	A	0°-45°-90° U. Q.	M	45°-90° L. Q.		
	B-3	A	0°-45°-90° U. Q.	K	45° U. Q.		
	B-4	A	0°-45°-90° U. Q.	N	45° L. Q.		
	B-5	D	0°-45° U. Q.	J	45°-90° U. Q.		
	B-6	E	45° U. Q. & 45° L. Q.	L	90°		
	B-7	F	0°	J	45°-90° U. Q.		

Piece	Ref.	Description	Drawing Reference
99830	**2**	**Post,** with A. R. A. Base drilled for Wire Outlet, complete as shown for 1-Arm Signals and Top Arm of 2-Arm Signals as shown. (For details, see Plate B-2443)	B–9893–66

UNION SWITCH & SIGNAL CO.

ONE AND TWO ARM POSITION LIGHT BRIDGE SIGNALS, COMPLETE ASSEMBLIES

(Continued)

When Mounting Fittings are Wanted Please Supply Dimensions P to Z also Specify M and N Dimensions

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	3	**Post** for Marker Light (specify length of Post or supply dimensions of the Bridge on which the Signals are to be mounted. (For details, see Plate B-2443)	B–12477–1
	4	**Post** for Bottom Arm of 2-Arm Signal (specify length of Post or supply dimensions of the Bridge on which the Signals are to be mounted. (For details, see Plate B-2443)	B–9893–25

PLATE B-2415

UNION SWITCH & SIGNAL CO.

For aspects other than those shown see plate B-2430

ONE AND TWO ARM POSITION LIGHT SIGNALS FOR CANTILEVER MOUNTING

UNION SWITCH & SIGNAL CO.

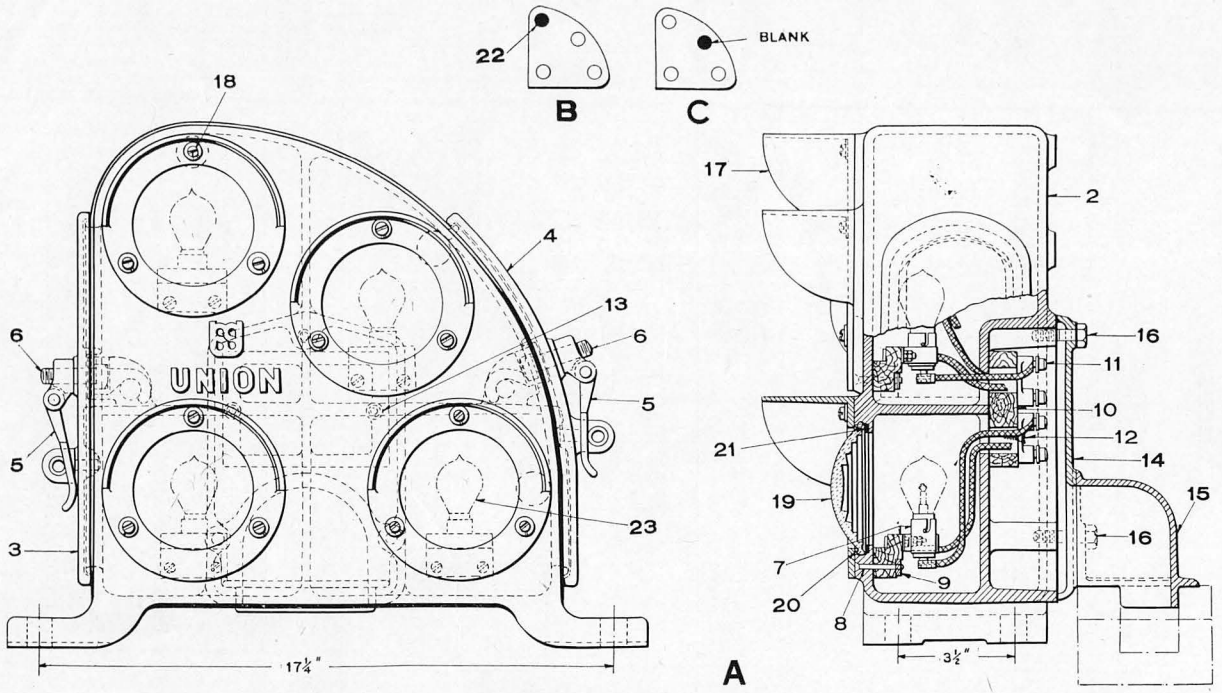
ONE AND TWO ARM POSITION LIGHT SIGNALS FOR CANTILEVER MOUNTING

When Mounting Fittings are Wanted Please Supply Dimensioned Drawing of the Cantilever Bracket on which the Signals are to be Mounted

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

..... **Arm Assemblies,** Complete with Fittings							
Piece	Ref.	Top Arm		Bottom Arm		Dwg. C-8966 Sheet	Remarks
		Aspect Plate B-2430	Indication	Aspect Plate B-2430	Indication		
119833	**A**	A	0°-45°-90° U. Q.	Q	Marker Light	16	
	B	A	0°-45°-90° U. Q.	K	45° U. Q.	12	
	B-1	A	0°-45°-90° U. Q.	J	45°-90° U. Q.	12	
	B-2	A	0°-45°-90° U. Q.	L	90°	12	
	B-3	F	0°	J	45°-90° U. Q.	12	
	B-4	D	0°-45° U. Q.	L	90°	12	

Piece	Ref.	Description	Drawing Reference
117822	**2**	**Ladder,** with Handrail, Platform and Stay for Refs. A and B. (For details, see Plate B-2446).....	B–10313–287
119815	**3**	**Post,** with A. R. A. Base, drilled for Wire Outlets for Ref. A. (For details, see Plate B-2443).....	B–9893–80
117726	**4**	**Post,** with A. R. A. Base, drilled for Wire Outlets for Refs. B, B-1, B-2, B-3 and B-4. (For details, see Plate B-2443).....	B–9893–80



POSITION LIGHT DWARF SIGNAL

UNION SWITCH & SIGNAL CO.

POSITION LIGHT DWARF SIGNAL

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
94188	**A**	**Signal,** complete for 0°-45°-90° R. H. U. Q. as shown	C–8801–2
95453	**B**	**Signal,** complete for 0°-45° R. H. U. Q.	C–8801–2
118375	**C**	**Signal,** complete for 0°-90° R. H. U. Q. and 0°-45° R. H. L. Q.	C–8801–2
94146	**2**	**Signal Case** only for Refs. A, B and C	C–8963–1
95464	**3**	**Door, L. H.,** for Ref. 2 (includes Refs. 3a and 3b)	C–8963–2
64996	**3a**	**Staple** for Refs. 3 and 4	8191–1
94070	**3b**	**Gasket** for Ref. 3	8078–1248
95465	**4**	**Door R. H.,** for Ref. 2 (includes 3a and 4a)	C–8963–2
94071	**4a**	**Gasket** for Ref. 4	8078–1248
72832	**5**	**Hasp,** with Nut and Rivet for Refs. 3 and 4	8299–66
94151	**6**	**Hook Bolt** for Refs. 3 and 4	C–8963–3
94172	**7**	**Terminal Board,** with Bayonet Socket	9968–578
94152	**7a**	**Terminal Board** only	9968–578
94185	**7b**	**Bayonet Socket**	C–8665–2
	7c	**Terminal Post,** for Wire Connection (includes Refs. 7e, 7g and 7h)	12451
	7d	**Terminal Post,** (for Clamping Socket, includes Refs. 7f and 7g)	12451
60526	**7e**	**Terminal Post** only for Ref. 7c	8094–1039
84779	**7f**	**Terminal Post** only for Ref. 7d	8094–1039

PLATE B-2425

UNION SWITCH & SIGNAL CO.

POSITION LIGHT DWARF SIGNAL

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
26942	**7g**	**Nut** for Refs. 7e and 7d	8109–184
44618	**7h**	**Washer** for Ref. 7c	7828–184
	8	**Machine Screw No. 10-30x1½″** Flat Hd. S. for fastening Ref. 7 to Ref. 2	
94154	**9**	**Clamping Plate**	9999–103
117617	**10**	**Terminal Board** (includes 1-10a, 4-11a, 1-11 and 5-12)	9968–635
117618	**10a**	**Terminal Board** only	9968–635
95756	**11**	**Terminal Connector** (4 way)	8064–531
95794	**11a**	**Terminal Connector** (2 way)	8064–501
94313	**11b**	**Terminal Connector** only for Ref. 11	8064–531
117288	**11c**	**Terminal Connector** only for Ref. 11a	8064–501
	11d	**Machine Screw, No. 14-24x¾″** Fil. Hd. Br. for Refs. 11 and 11a.	
	11e	**Machine Screw, No. 14-24x½″** Fil. Hd. Br. for Refs. 11 and 11a.	
84	**11f**	**Washer** for Refs. 11d and 11e	7828–6
	12	**Wood Screw, No. 8x¾″** Rd. Hd. S. (Cad. Pl.) for Refs. 11 and 11a.	
	13	**Machine Screw, No. 14-24x1¼″** Fil. Hd. S. for fastening Refs. 10 and 10a to Ref. 2.	
21014	**13a**	**Washer** for Ref. 13	7826–66

Position Light Dwarf Signal

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
94149	**14**	**Back Cover Plate**	C–8963–3
63934	**15**	**Trunking Cap**	C–8042–10
	16	**Tap Bolt,** $\frac{3}{8}$″-16x1$\frac{1}{4}$″ Hex. Hd. S. for fastening Refs. 14 and 15 to Ref. 2.	
94150	**17**	**Hood**	C–8963–3
	18	**Machine Screw,** No. 14-24x$\frac{3}{4}$″ Fil. Hd. S. for Ref. 17	
	18a	**Lock Washer,** $\frac{1}{4}$″ Plain S. for Ref. 18 ($\frac{1}{8}$″x$\frac{1}{16}$″).	
94080	**19**	**Lens,** 4″ Diam. (Clear)	B–8276–12
94153	**20**	**Retaining Ring**	7770–390
95469	**21**	**Gasket** between Refs. 2 and 19	8078–1268
94139	**22**	**Sheet Steel Disc** (when no Lamp is used)	7436–119
	22a	**Machine Screw,** No. 14-24x$\frac{1}{2}$″ Fil. Hd. S. for Ref. 22.	
113706	**23**	**Electric Lamp, 6-8 Volts, 21 C. P.**	B–12409–12

Remove staple before filing plate in loose leaf covers

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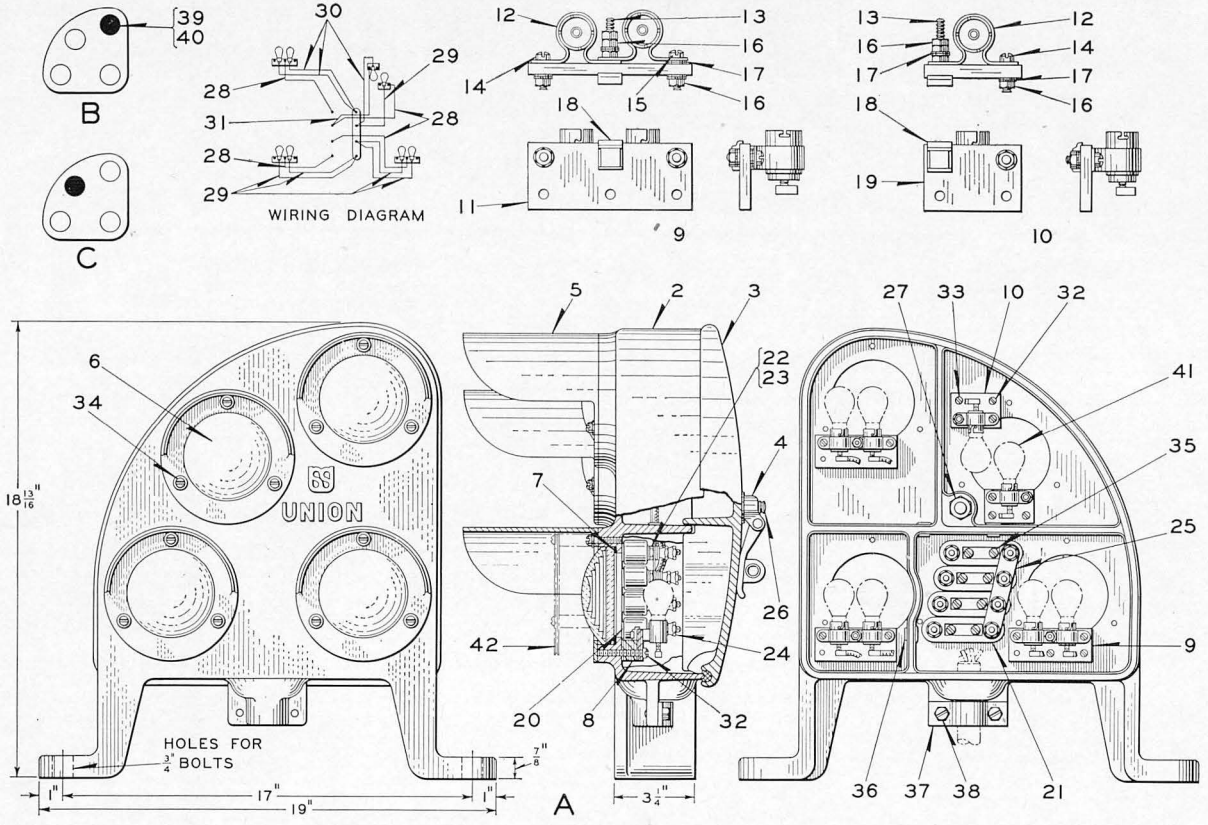

Position Light Dwarf Signal

Position Light Dwarf Signal

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
152151	**A**	**Position Light Dwarf Signal Complete** (Without Lamp Bulbs and Lens Guards) 3 or 4-Position (0°-45° L.Q., 45° U.Q.-90°)	C–8801–4
206106	**B**	**Position Light Dwarf Signal Complete** (Without Lamp Bulbs and Lens Guards) 2-Position (0°-45° L.Q.)	C–8801–4
210309	**C**	**Position Light Dwarf Signal Complete** (Without Lamp Bulbs and Lens Guards) 2-Position (0°-45° U.Q.-90°)	C–8801–4
152148	**2**	**Signal Case**	C–8963–4
152150	**3**	**Door** with Gasket Ref. 3a	C–8963–5
	3a	**Gasket,** ⅜″x⅜″x4′-1-½″ long Jute Packing.	
140207	**4**	**Hasp Complete**	8299–66
94150	**5**	**Hood**	C–8963–3
217842	**6**	**Lens Unit Complete** (Inc. 1-6a and 1-6b) (Sealed and Taped)	B–8276–86
189044	**6a**	**Clear Lens,** 4″ Diam.	B–8276–12
188985	**6b**	**Clear Roundel,** 4″ Diam. 20° Flat Spreadlite (Sand-blasted)	8468–66
189045	**7**	**Gasket**	8078–1499
152145	**8**	**Terminal Board**	9968–883
174933	**9**	**Lamp Socket Complete**	12415–32
	10	**Lamp Socket Complete**	12415–33
174480	**11**	**Terminal Board**	9968–931
163628	**12**	**Bayonet Lamp Socket Complete**	12415–44
	13	**Terminal Post** with Nuts and Washers (Inc. 1-13a, 3-16, 2-17 and 1-18)	12451–

Position Light Dwarf Signal

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
2798	**13a**	**Terminal Post Only** for Ref. 13	8094–82
	14	**Machine Screw,** No. 10-30x$\frac{5}{8}$″ Fil. Hd. Br. (N.P.) with One Nut Ref. 16, One Washer Ref. 17 and One No. 10 Pl. S. Lock Washer ($\frac{1}{8}$″x$\frac{3}{64}$″) (Cad. Pl.).	
	15	**Machine Screw,** No. 10-30x$\frac{5}{8}$″ Fil. Hd. Br. (N.P.) with One Nut Ref. 16, Three Washers Ref. 17 and One No. 10 Pl. S. Lock Washer ($\frac{1}{8}$″x$\frac{3}{64}$″) (Cad. Pl.).	
26942	**16**	**Nut**	8109–184
44618	**17**	**Washer**	7828–184
152143	**18**	**Nut Lock**	8486–384
152146	**19**	**Terminal Board**	9968–883
121356	**20**	**Gasket**	8078–1372
116846	**21**	**Terminal Block** with One Nut Ref. 22 and One Washer Ref. 23 on each post	9968–625
127260	**22**	**Nut**	8109–194
29102	**23**	**Washer**	7828–139
29101	**24**	**Nut**	8109–193
152144	**25**	**Terminal Connector**	8064–658
152142	**26**	**Stud**	8115–203
	27	**Hex Nut,** $\frac{1}{2}$″ (Cad. Pl.).	
152335	**28**	**Lead Complete**	B–9990–15
138605	**29**	**Lead Complete**	B–9991–6
167207	**30**	**Lead Complete**	B–9991–10
74300	**31**	**Lead Complete**	B–9990–7
	32	**Machine Screw,** No. 10-30x1$\frac{3}{8}$″ Fil. Hd. S. (Tin Pl.).	

Position Light Dwarf Signal

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	33	**Machine Screw,** No. 10-30x1 1/8" Fil. Hd. S. (Tin Pl.).	
	34	**Machine Screw,** No. 14-24x3/4" Fil. Hd. S. (Tin Pl.) with 1/4" Pl. S. Lock Washer (3/32"x1/16") (Tin Pl.).	
	35	**Machine Screw,** No. 12-28x3/4" Fil. Hd. S. (Tin Pl.).	
	36	**Bushing.**	
210540	37	**Clamp**	10914–923
170053	38	**Screw**	8190–312
94139	39	**Disc** (For blanking out light spaces not required)	7436–119
	40	**Machine Screw,** No. 14-24x1/2" Fil. Hd. S. (Tin Pl.) For attaching Ref. 39 to Case.	
	41	**Lamp Bulb,** 12-16 Volts, 21 C.P. Single Contact Bayonet Candelabra Base	B–12409–
106963	42	**Lens Guard Complete** (Inc. 1-42a, 1-42b, 3-42c and 3-42d)	C–8963–8
106962	42a	**Front Ring** with Screen	C–8963–8
107019	42b	**Back Ring**	7436–152
172025	42c	**Spacer**	8072–650
	42d	**Machine Screw,** No. 14-24x2 1/4" Rd. Hd. S. (Tin Pl.).	

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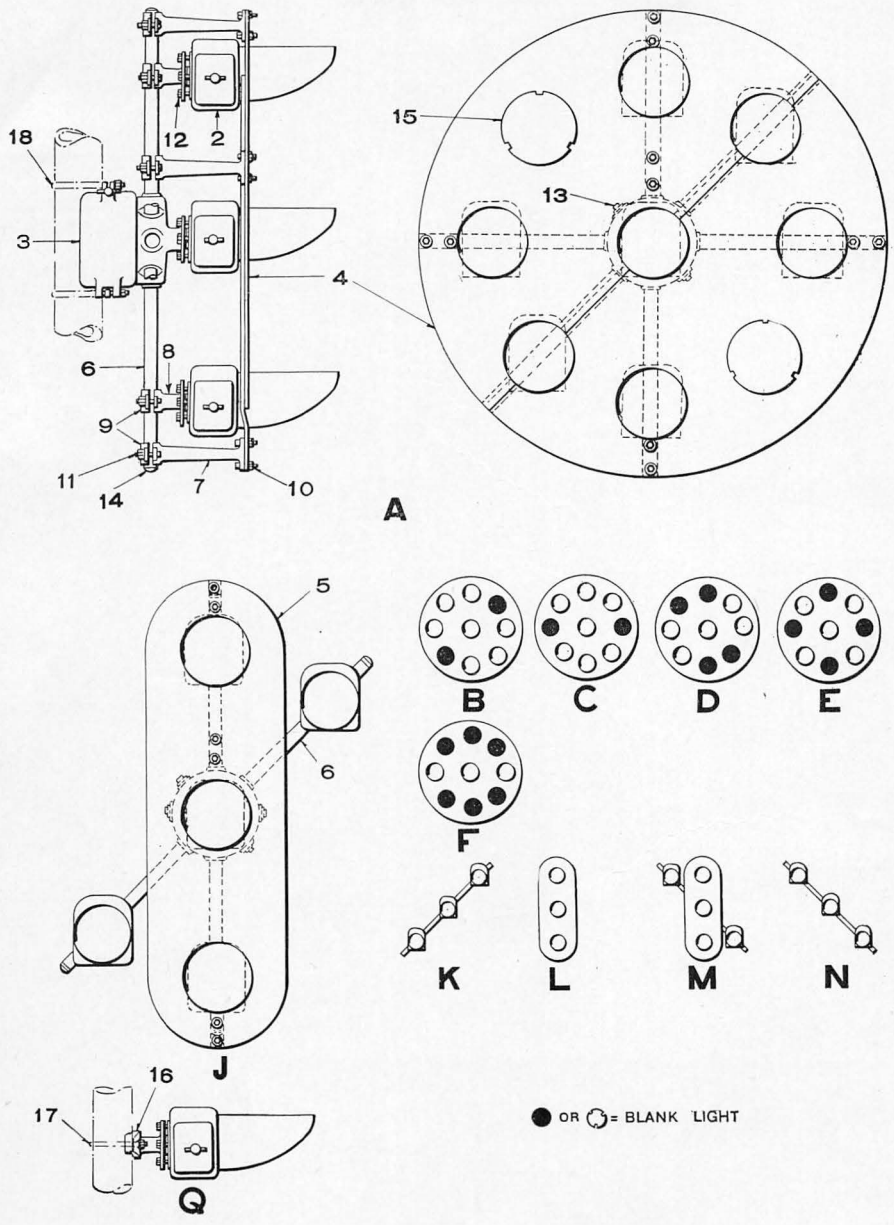

Position Light Signal Unit

UNION SWITCH & SIGNAL CO.

POSITION LIGHT SIGNAL UNITS COMPLETE WITH LAMP UNITS, BACKGROUNDS, TERMINAL BOXES AND FITTINGS FOR ALL ARMS OF GROUND, BRIDGE AND CANTILEVER MOUNTED SIGNALS

For Details not shown see Plates B-2435, B-2436 and B-2440

For complete assemblies see Plates B-2401, B-2405, B-2410 and B-2415

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
116688	**A**	**0°-45°-90° U. Q.** as shown	C–8965–12
117091	**B**	**0°-45°-90° L. Q.**	C–8965–12
118376	**C**	**45°-90° U. Q. and 45° L. Q.**	C–8965–14
117819	**D**	**0°-45° U. Q.**	C–8965–14
117568	**E**	**45° U. Q. and 45° L. Q.**	C–8965–14
118377	**F**	**0°**	C–8965–14
117268	**J**	**45°-90° U. Q.** as shown	C–8965–12
116707	**K**	**45° U. Q.**	C–8965–12
117270	**L**	**90°**	C–8965–12
	M	**45°-90° L. Q.**	C–8965
122491	**N**	**45° L. Q.**	C–8965–12
97923	**Q**	**Marker Light** (For details, see Plate B-2435)	C–8965–3
	2	**Lamp Unit,** (for details, see Plate B-2435.)	
	3	**Terminal Box** and Lamp Support, for details, see Plate B-2440.	
	3	**Terminal Box** and Lamp Support (for details, see Plate B-2440.)	
116490	**4**	**Background,** circular	C–8964–14
116636	**5**	**Background,** elongated	C–8964–13
128789	**6**	**Spider Arm (1¼″ Pipe)** (with Plug, Ref. 14)	B–12477–1
94335	**7**	**Background Support (10½″ Long)**	C–8964–3

UNION SWITCH & SIGNAL CO.

POSITION LIGHT SIGNAL UNITS COMPLETE WITH LAMP UNITS, BACKGROUNDS, TERMINAL BOXES AND FITTINGS FOR ALL ARMS OF GROUND, BRIDGE AND CANTILEVER MOUNTED SIGNALS (Continued)

For Details not shown see Plates B-2435, B-2436 and B-2440
For complete assemblies see Plates B-2401, B-2405, B-2410 and B-2415

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
140104	**7a**	**Background Support (12½″ Long)**	C–8964–3
	8	**Lamp Support** with Cap and Bolts (Inc. 1-8a, 1-9 and 2-11)	C–8964–3
94334	**8a**	**Lamp Support** for Ref. 8	C–8964–3
94336	**9**	**Cap** for Refs. 7 and 8	C–8964–3
	10	**Bolt, ¼″x¾″** Sq. Hd. S. (Cad. Pl.) with ¼″ Hex. Nut and ¼″ Plate Washer for fastening Ref. 7 to Ref. 4 or Ref. 5.	
	11	**Bolt, ⅜″x2½″** Sq. Hd. S. with ⅜″ Hex. Nut and ⅜″ Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″), for fastening Ref. 9 to Refs. 7 and 8.	
	12	**Tap Bolt, ⅜″x1¼″** Hex. Hd. S. for fastening Ref. 2 to Ref. 8.	
	13	**Pipe Plug, 1¼″** C. I.	
94355	**14**	**Plug** for end of Spider Arm Ref. 6	C–8964–3
95828	**15**	**Cover Plate,** used in place of Lamp Unit	7436–121
95812	**16**	**Lamp Support,** with Gasket for clamping on 5″ Pipe	C–8964–8
97619	**16a**	**Gasket** for Ref. 16	8078–1042
46567	**17**	**"U" Bolt, ½″** with ½″ Hex. Nut and ½″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″) for securing Ref. 16 to 5″ Pole	8782–77
95838	**18**	**"U" Bolt, ¾″** with ¾″ Hex. Nut and ¾″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{16}$″) for securing Ref. 3 to 5″ Pole	8782–159

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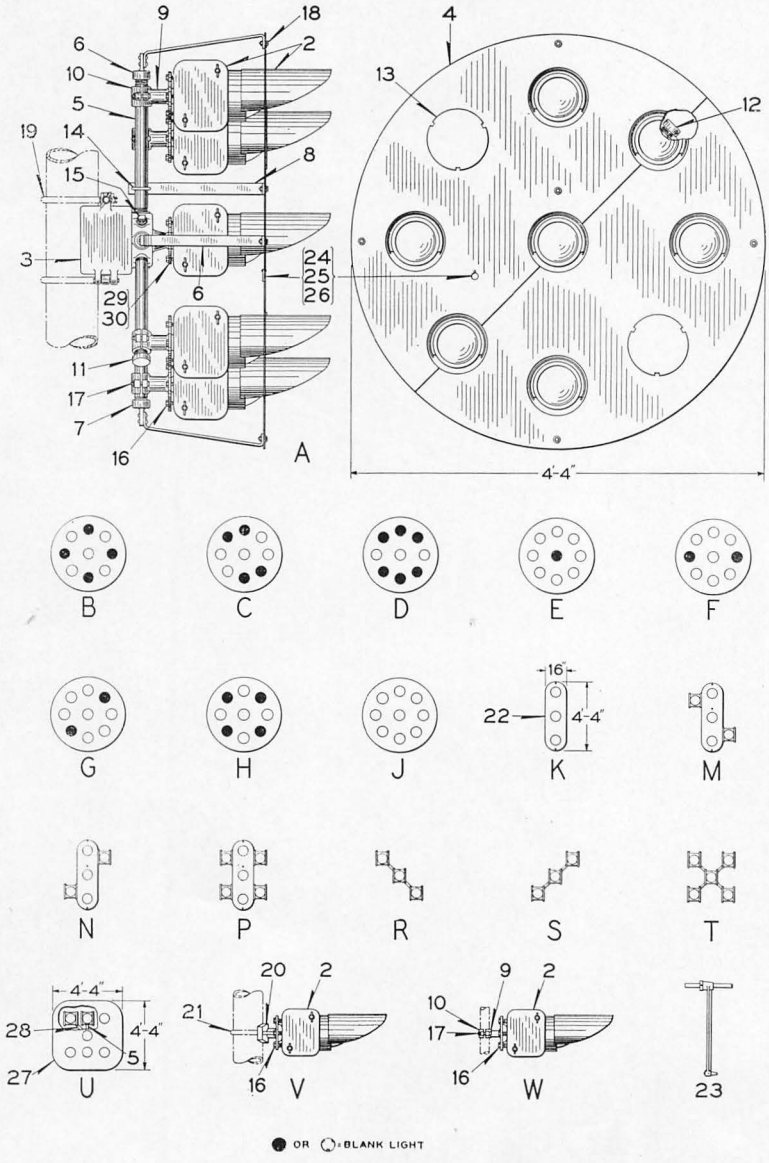


Style "PL-3" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all Arms of Ground, Bridge and Cantilever Mounted Signals

Style "PL-3" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all Arms of Ground, Bridge and Cantilever Mounted Signals

Orders for "PL-3" Signals complete with Poles and Fittings should refer to Plates B-2401, B-2405, B-2410 or B-2415 specifying that "PL-3" Units are desired instead of those shown.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "PL-3", (Indication) Signal Unit Ref. . . . . , Plate B-2430-1 Complete as Shown in Full Lines. Without U-bolts Ref. 19 or Lamp Bulbs (If U-bolts and Lamp Bulbs are desired, orders should so specify).

Piece	Ref.	Indications	Remarks	Drawing Reference
107464	A	3 Pos. 0°-45°-90° U.Q.		C–9112–7
219377	B	2 Pos. 45° U.Q., 45° L.Q.		C–9112–6
222715	C	2 Pos. 0°-45° U.Q.		C–9112–6
223084	D	1 Pos. 0°		C–9112–6
223517	E	8 Light "Phase Break" Signal	With Terminal Box Ref. 3a	C–9112–6
224661	F	3 Pos. 45°-90° U.Q., 45° L.Q.		C–9112–6
225177	G	3 Pos. 0°-90° U.Q., 45° L.Q.		C–9112–9
228077	H	2 Pos. 0°-90° U.Q.		C–9112–9
234411	J	4 Pos. 0°-45°-90° U.Q., 45° L.Q.		C–9112–9
216363	K	1 Pos. 90°		C–9112–6
216364	M	2 Pos. 45° L.Q., 90° U.Q.		C–9112–6
216807	N	2 Pos. 45°-90° U.Q.		C–9112–6
216808	P	3 Pos. 45°-90° U.Q., 45° L.Q.		C–9112–6
216784	R	1 Pos. 45° L.Q.		C–9112–6
216785	S	1 Pos. 45° U.Q.		C–9112–6
218689	T	2 Pos. 45° U.Q., 45° L.Q.		C–9112–6
223119	U	3 Pos. 45°-90° U.Q., 45° L.Q.		C–9112–8

Style "PL-3" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all Arms of Ground, Bridge and Cantilever Mounted Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
107388	V	**Style "PL-3" Marker Light** with Support Bracket for 5″ Pipe (Without U-bolts or Lamp Bulb; if U-bolts or Lamp Bulb are desired orders should so state)	C–9112–6
216123	W	**Standard Style "PL-3" Lamp Unit** with Clear Roundel, Noviol (Yellow) Conical Cover Glass, Support Bracket, Cap and Bolts for 1¼″ Pipe	C–9112–6
223642	Wa	**Special Style "PL-3" Lamp Unit** with Yellow (A.A.R.) Roundel, Clear Conical Cover Glass, Support Bracket, Cap and Bolts for 1¼″ Pipe	C–9112–6
107387	2	**Standard Style "PL-3" Lamp Unit Complete** with Clear Roundel and Noviol (Yellow) Conical Cover Glass (For details refer to Plate B-2438)	C–9112–5
223641	2a	**Special Style "PL-3" Lamp Unit Complete** with Yellow (A.A.R.) Roundel and Clear Conical Cover Glass (For details refer to Plate B-2438) For Ref. Wa.	C–9112–5
187832	3	**Terminal Box Complete** with standard conduit outlet (For details refer to Plate B-2441)	C–9112–3
223580	3a	**Terminal Box Complete** with Parkway Cable Outlet (For details refer to Plate B-2441)	C–9112–3
187793	4	**Background Complete** (Circular) (Inc. 1-24, 1-25 and 1-26)	C–9111–4
187808	5	**Spider Arm**	B–12477–7
214339	6	**Background Support Complete,** for Style "PL-3" Signal Units (Without $\frac{17}{64}$″ hole)	C–9111–9
214340	7	**Background Support Complete,** for Style "PL-3" Signal Units (With $\frac{17}{64}$″ hole)	C–9111–9
214338	8	**Background Support** for "PL-3" Signal Units	C–9111–7
177969	9	**Lamp Support** with Gasket Ref. 9a, for 1¼″ Pipe	C–8964–3
140605	9a	**Gasket** for Refs. 9 and 20 (Used between Lamp Unit and Lamp Support)	8078–1042

Style "PL-3" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all Arms of Ground, Bridge and Cantilever Mounted Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
166424	**9b**	**Lamp Support** with Cap and Bolts (Inc. 1-9, 1-10 and 2-17)	C–8964–3
94336	**10**	**Cap**	C–8964–3
187807	**11**	**Pipe Cap** (with ¼″ hole)	9511–128
215395	**12**	**Pipe Cap** (without ¼″ hole)	9511–128
95828	**13**	**Cover Plate,** used in place of Lamp Unit	7436–121
	14	**U-Bolt** with two ⅜″ Hex. Nuts (Cad. Pl. double thickness)	8782–189
167609	**14a**	**U-Bolt Only,** for Ref. 14	8782–189
	15	**C. I. Pipe Plug** 1¼″	
153684	**16**	**Bolt**	8190–370
	17	**Bolt,** ⅜″x2¼″ Sq. Hd. S. (Cad. Pl.) with ⅜″ Hex. Nut (Cad. Pl.) and ⅜″ Pl. S. Lock Washer (11/64″x7/64″) (Cad. Pl.)	
	18	**Tap Bolt,** 5/16″-18x¾″ Hex. Hd. S. (Cad. Pl.) with 5/16″ Hex. Nut (Cad. Pl.) and 5/16″ S. Plate Washer (Cad. Pl.)	
	19	**U-Bolt** with ¾″ Hex. Nuts and ¾″ Pl. S. Lock Washers (5/16″x7/32″) for 5″ Pipe	8782–159
95838	**19a**	**U-Bolt Only,** for Ref. 19	8782–159
95812	**20**	**Lamp Support** with Gaskets Refs. 9a and 20a for 5″ Pipe	C–8964–8
97619	**20a**	**Gasket** for Ref. 20 (Used between Lamp Support and 5″ Pipe)	8078–1042
	21	**U-Bolt** with ½″ Hex. Nuts and ½″ Pl. S. Lock Washers (3/16″x3/32″) for 5″ Pipe	8782–77
46567	**21a**	**U-Bolt Only,** for Ref. 21	8782–77

Style "PL-3" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all Arms of Ground, Bridge and Cantilever Mounted Signals

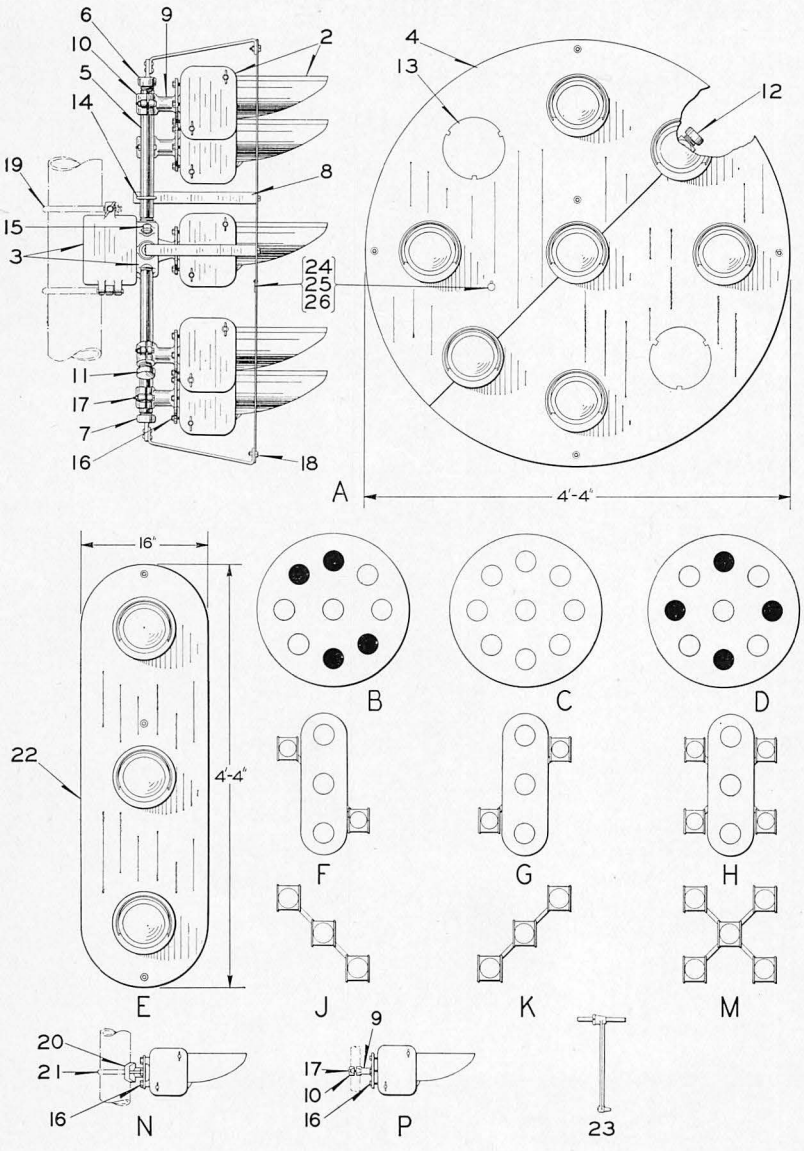
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
198814	22	**Background** (Elongated)	C–9111–4
187827	23	**Sighting Tube** for "PL-3" Signal Units	C–9003–7
167497	24	**Disc**	10933–52
	25	**Rivet,** $\frac{9}{64}$″x$\frac{1}{4}$″ Brass	
20686	26	**Washer**	7828–108
223118	27	**Background Complete** (Square) (Inc. 1-24, 1-25 and 1-26)	C–9111–11
223011	28	**Spider Arm**	B–12477–7
127175	29	**Cap.** Used when hub lamp is not used	C–8964–27
	30	**Machine Bolt,** $\frac{3}{8}$″x1$\frac{1}{4}$″ Sq. Hd. S. (Cad. Pl.) with $\frac{3}{8}$″ Hex. Nut (Cad. Pl.) and $\frac{3}{8}$″ Pl. S. Lock Washer ($\frac{11}{64}$″x$\frac{7}{64}$″) (Cad. Pl.) For attaching Cap Ref. 29 to Terminal Box.	

MEMORANDA

Remove staple before filing Plates
in proper sequence in loose leaf covers.



Style "PL-2" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all arms of Ground, Bridge and Cantilever Mounted Signals.

Style "PL-2" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all arms of Ground, Bridge and Cantilever Mounted Signals.

Orders for "PL-2" Signals complete with Poles and Fittings should refer to Plates B-2401, B-2405, B-2410 or B-2415 specifying that "PL-2" Units are desired instead of those shown.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "PL-2", (Indication) Signal Unit Ref.....Plate B-2431 Complete as shown in full lines. Without U-Bolts Ref. 19 or Lamp Bulbs (If U-Bolts and Lamp Bulbs are desired, orders should so specify).

Piece	Ref.	Indications	Remarks	Drawing Reference
187844	**A**	3 Pos. 0°-45°-90° U.Q.		C–9112–1
196522	**B**	2 Pos. 0°-45° U.Q.		C–9112–4
197729	**C**	4 Pos. 0°-45°-90° U.Q., 45° L.Q.		C–9112–4
	D	2 Pos. 45° U.Q., 45° L.Q.		C–9112–6
198815	**E**	1 Pos. 90°		C–9112–4
213025	**F**	2 Pos. 45°-90° L.Q.		C–9112–4
	G	2 Pos. 45°-90° U.Q.		C–9112–6
	H	3 Pos. 45°-90° U.Q., 45° L.Q.		C–9112–6
196523	**J**	1 Pos. 45° L.Q.		C–9112–4
	K	1 Pos. 45° U.Q.		C–9112–6
	M	2 Pos. 45° L.Q., 45° U.Q.		C–9112–6

Piece	Ref.	Description	Drawing Reference
196524	**N**	**Style "PL-2" Marker Light** with Support Bracket for 5″ Pipe (Without U-Bolts or Lamp Bulb; if U-Bolts or Lamp Bulb are desired orders should so state). (For details refer to Plate B-2437).....	C–9112–4
198032	**P**	**Style "PL-2" Lamp Unit** with Support Bracket, Cap and Bolts for 1¼″ Pipe (For details refer to Plate B-2437).....	C–9112–4
187848	**2**	**Style "PL-2" Lamp Unit Complete** (For details refer to Plate B-2437).....	C–9112–2
187832	**3**	**Terminal Box Complete** (For details refer to Plate B-2441).....	C–9112–3

Style "PL-2" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all arms of Ground, Bridge and Cantilever Mounted Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
187793	**4**	**Background Complete** (Circular) (Inc. 1-24, 1-25 and 1-26)	C–9111–4
187808	**5**	**Spider Arm**	B–12477–7
187824	**6**	**Background Support Complete,** for Style "PL-2" Signal Units (Without $\frac{17}{64}$" hole)	C–9111–9
187825	**7**	**Background Support Complete,** for Style "PL-2" Signal Units (With $\frac{17}{64}$" hole)	C–9111–9
187818	**8**	**Background Support** for "PL-2" Signal Units	C–9111–7
177969	**9**	**Lamp Support** with Gasket Ref. 9a, for 1¼" Pipe	C–8964–3
140605	**9a**	**Gasket** for Refs. 9 and 20 (Used between Lamp Unit and Lamp Support)	8078–1042
166424	**9b**	**Lamp Support** with Cap and Bolts (Inc. 1-9, 1-10 and 2-17)	C–8964–3
94336	**10**	**Cap**	C–8964–3
187807	**11**	**Pipe Cap** (with ¼" hole)	9511–128
215395	**12**	**Pipe Cap** (without ¼" hole)	9511–128
95828	**13**	**Cover Plate,** used in place of Lamp Unit	7436–121
	14	**U-Bolt** with two ⅜" Hex. Nuts (Cad. Pl. double thickness)	8782–189
167609	**14a**	**U-Bolt Only,** for Ref. 14	8782–189
	15	**C. I. Pipe Plug** 1¼"	
153684	**16**	**Bolt**	8190–370
	17	**Bolt,** ⅜"x2¼" Sq. Hd. S. (Cad. Pl.) with ⅜" Hex. Nut (Cad. Pl.) and ⅜" Pl. S. Lock Washer ($\frac{11}{64}$"x$\frac{7}{64}$") (Cad. Pl.).	
	18	**Tap Bolt,** $\frac{5}{16}$"–18x¾" Hex. Hd. S. (Cad. Pl.) with $\frac{5}{16}$" Hex. Nut (Cad. Pl.) and $\frac{5}{16}$" S. Plate Washer (Cad. Pl.).	

Style "PL-2" Position Light Signal Units with Lamp Units, Backgrounds, Terminal Boxes and Fittings for all arms of Ground, Bridge and Cantilever Mounted Signals

(Continued)

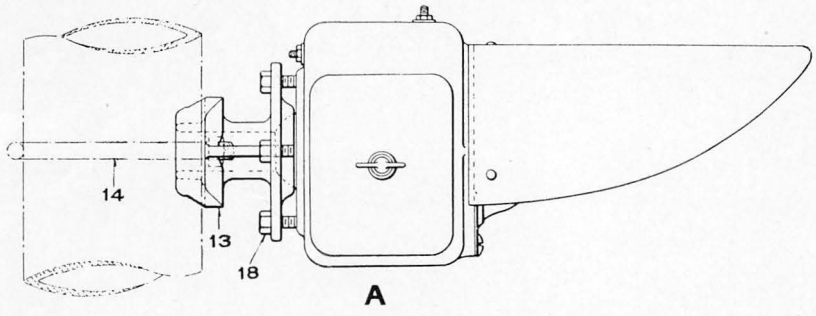
Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	19	**U-Bolt** with ¾″ Hex. Nuts and ¾″ Pl. S. Lock Washers (5/16″x7/32″) for 5″ Pipe	8782–159
95838	19a	**U-Bolt Only,** for Ref. 19	8782–159
95812	20	**Lamp Support** with Gaskets Refs. 9a and 20a for 5″ Pipe	C–8964–8
97619	20a	**Gasket** for Ref. 20 (Used between Lamp Support and 5″ Pipe)	8078–1042
	21	**U-Bolt** with ½″ Hex. Nuts and ½″ Pl. S. Lock Washers (3/16″x3/32″)	8782–77
46567	21a	**U-Bolt Only,** for Ref. 21	8782–77
198814	22	**Background** (Elongated)	C–9111–4
187827	23	**Sighting Tube** for "PL-2" Signal Units	C–9003–7
167497	24	**Disc**	10933–52
	25	**Rivet,** 9/64″x¼″ Brass.	
20686	26	**Washer**	7828–108

MEMORANDA

PLATE B-2435

UNION SWITCH & SIGNAL CO.



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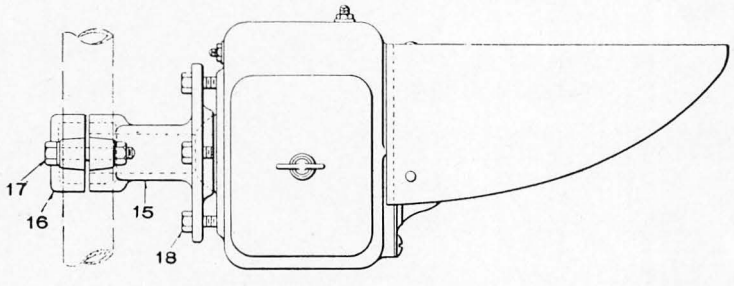

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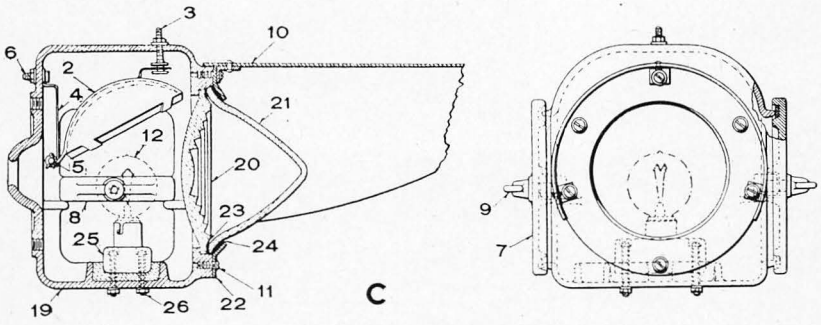


C

LAMP UNIT ASSEMBLIES

UNION SWITCH & SIGNAL CO.

LAMP UNIT ASSEMBLIES AND DETAILS FOR POSITION LIGHT SIGNAL

On all orders subsequent to May 1927 Lamp Units Plate B-2436 have been supplied.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
97923	**A**	**Marker Light** (Lamp) Unit for Ground Signal, complete for 5″ Pipe, with U-Bolt and Nuts as shown..	C–8965–3
95813	**Aa**	**Marker Light** (Lamp) Unit for Ground Signal, complete for 5″ Pipe, without U-Bolt and Nuts.....	C–8965–3
143813	**Ab**	**Marker Light** (Lamp) Unit for Ground Signal, complete for 6″ Pipe, with U-Bolt and Nuts.....	C–8965–3
95815	**B**	**Lamp Unit,** as shown for Assemblies Plate B-2430, except Pivot Lamp and for Bridge Marker Lamp when applied to 1¼″ Pipe.....	C–8965–3
	C	**Lamp Unit,** as shown without Electric Lamp Ref.12	C–8965–2
96040	**Ca**	**Lamp Unit,** Ref. A without Lens, Lens Ring and Hood (Including Refs. 2 to 11, inclusive).....	C–8965–2
83249	**2**	**Reflector** (Including Refs. 2a and 2b).....	C–8688–51
83247	**2a**	**Reflector** only for Ref. 2.....	C–8688–2
83248	**2b**	**Reflector Holder**.....	C–8688–51
65199	**3**	**Screw** for vertical adjustment of Ref. 2.....	8098–1250
29103	**3a**	**Nut** for Ref. 3.....	8109–194
939	**3b**	**Washer** for Ref. 3.....	7828–7
95823	**4**	**Bracket** for lateral adjustment of Ref. 2.....	C–8964–5
95836	**5**	**Pin** for fastening Ref. 2 to Ref. 4.....	8097–108
	5a	Cotter, $\frac{1}{16}$″x$\frac{3}{8}$″ S. for Ref. 5.	
	6	**Bolt,** ¼″x¾″ Sq. Hd. S. with ¼″ Hex. Nut and ¼″ Plate Washer for Ref. 4.	

PLATE B-2435

UNION SWITCH & SIGNAL CO.

LAMP UNIT ASSEMBLIES AND DETAILS FOR POSITION LIGHT SIGNAL (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	7	**Door,** with Gasket Ref. 7a	C–8964–4
80351	**7a**	**Gasket** for Ref. 7	8078–1248
94316	**8**	**Yoke** to fasten Ref. 7 to case	C–8964–4
	9	**Thumb Screw,** $\frac{5}{16}$″**-18** M. I., 1″ long.	
95825	**10**	**Hood**	C–8964–5
	11	**Machine Screw, No. 10-30x¾″** Rd. Hd. S. (Cad. Pl.) for securing Ref. 10 to case.	
38710	**11a**	**Washer** for Ref. 11	7826–98
113698	**12**	**Electric Lamp,** 12 V. 7.5 watt	B–12409–14
		Detail references 13 to 18 inclusive below, also shown on Plate B-2430.	
95812	**13**	**Lamp Support,** with Gasket Ref. Ba for clamping on 5″ Pipe	C–8964–8
97619	**13a**	**Gasket** for Ref. 13	8078–1042
46567	**14**	**U-Bolt,** ½″ with ½″ Hex. Nut and ½″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″) for securing Ref. 13 to 5″ Pole	8782–77
94334	**15**	**Lamp Support** for clamping on 1¼″ Pipe	C–8964–3
94336	**16**	**Cap** for Ref. 15	C–8964–3
	17	**Bolt, ⅜″x2½″** Sq. Hd. S. with ⅜″ Hex. Nut and ⅜″ Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″).	
	18	**Tap Bolt, ⅜″x1¼″** Hex. Hd. S. for fastening Ref. C to Refs. 13 or 15 and for securing adjustment of the Lamp.	

UNION SWITCH & SIGNAL CO.

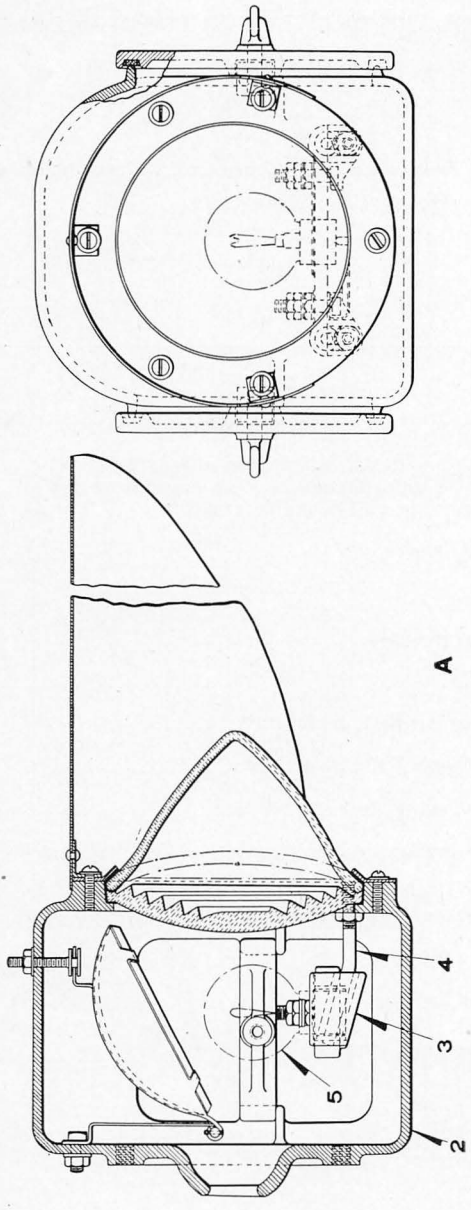
LAMP UNIT ASSEMBLIES AND DETAILS FOR POSITION LIGHT SIGNAL (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
		The following material, when ordered separately, requires specially designed aligning equipment and trained workmen to assemble properly.	
	19	**Lamp Unit Case** only	C–8964–2
64541	**20**	**Lens, 5⅜″**	B–8276–29
64512	**21**	**Conical Cover Glass**	8468–29
95839	**22**	**Lens Ring**	7436–120
111979	**23**	**Gasket** between Refs. 20 and 21	8078–684
40822	**24**	**Gasket** between Refs. 21 and 22	8078–684
95844	**25**	**Lamp Base,** complete	C–8665–3
128725	**25a**	**Contact Spring** for increasing center contact pressure on Lamp	8124–213
	26	**Machine Screw, No. 6-40x1 $\frac{5}{16}$″** Fil. Hd. Br.	
1505	**26a**	**Nut** for Ref. 26	8109–11
20686	**26b**	**Washer** for Ref. 26	7828–108

PLATE B-2436

UNION SWITCH & SIGNAL CO.



FOR OTHER DETAILS REFER TO REF. G PLATE B-2435

LAMP UNIT FOR POSITION LIGHT SIGNAL

Lamp Unit for Position Light Signal

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
95805	**A**	**Lamp Unit,** complete as shown (Without Lamp Bulb Ref. 5) for Refs. A, Aa, B and Pivot Position on complete assemblies, Plate B-2430	C–8965–2
94314	**2**	**Lamp Unit Case**	C–8964–2
123630	**3**	**Lamp Base**	12415–6
123636	**4**	**Stud** with ¼″ Hex. Jam Nut	8114–609
113698	**5**	**Electric Lamp,** 12 Volts, 7.5 Watts	B–12409–14
		For all other Details, refer to Ref. C, Plate B-2435.	

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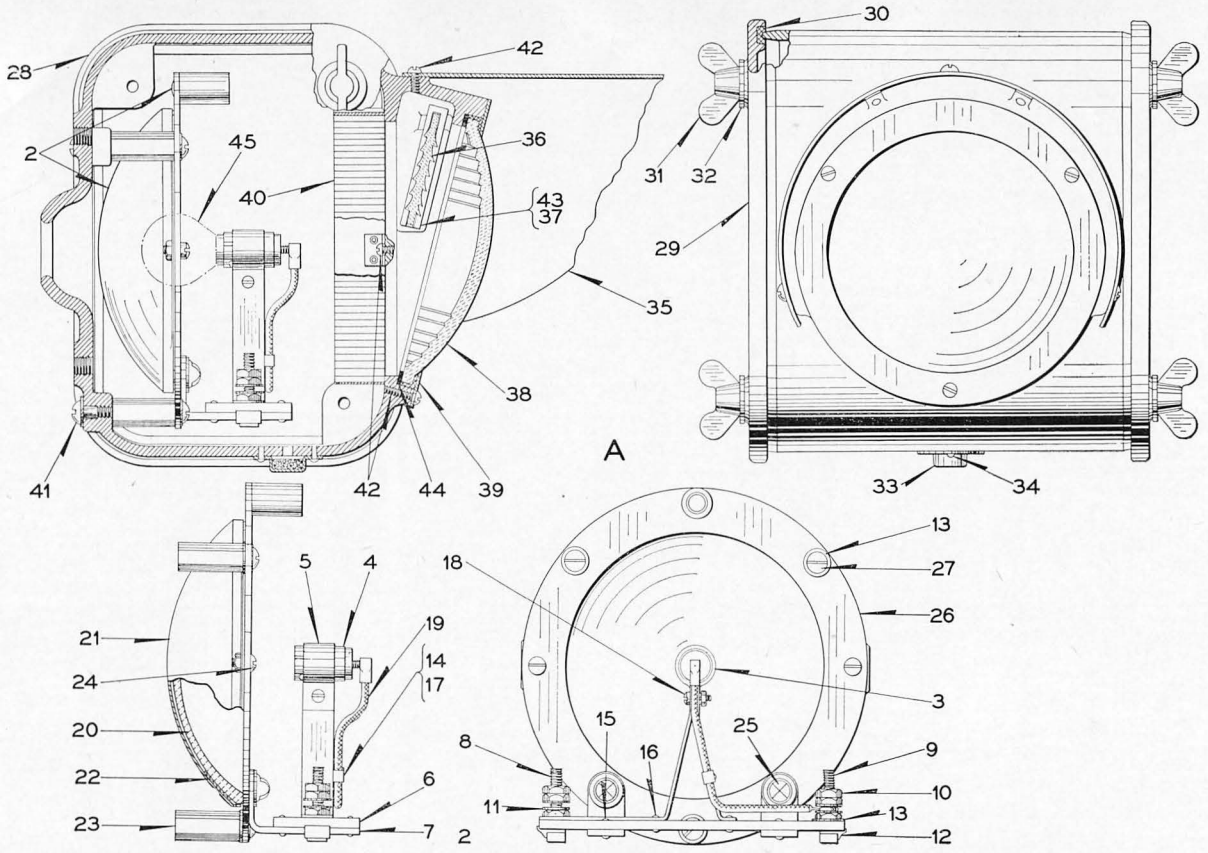

Lamp Unit for Style "PL-2" Position Light Signal

Style "PL-2" Position Light Signal

Detail Parts

Lamp Unit

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
187848	**A**	**Style "PL-2" Lamp Unit Complete** (Without Lamp Bulb)	C–9112–2
187831	**Aa**	**Style "PL-2" Lamp Unit Case with Doors, Ventilator and Thumb Screws** (Without Reflector, Hood, Cover Glass, Lens Ring and Phankill Unit) (Inc. 1-28, 2-29, 4-31, 4-32, 1-33 and 2-34)	C–9112–2
187898	**2**	**Reflector with Single Contact Lamp Receptacle Complete**	C–9111–8
187856	**3**	**Single Contact Lamp Receptacle Complete** (Inc. 1-4, 1-5, 1-6, 2-7, 1-8, 1-9, 1-14, 4-15, 2-16, 1-17, 1-18 and 1-19)	12415–43
179004	**4**	**Lamp Socket**	12415–40
187858	**5**	**Receptacle Holder**	11893–729
187857	**6**	**Lamp Receptacle Board**	8750–2648
187869	**7**	**Bracket**	10914–612
	8	**Terminal Post with Nuts and Washers** (Inc. 1-8a, 3-10, 2-11 and 1-12)	12451–
122489	**8a**	**Terminal Post Only**	8094–1192
	9	**Terminal Post with Nuts and Washers** (Inc. 1-8a, 3-10, 2-11, 1-12 and 1-13)	12451–
29103	**10**	**Nut**	8109–194
29102	**11**	**Washer**	7828–139
186420	**12**	**Lock Washer**	8486–362
29104	**13**	**Washer**	7828–138
147988	**14**	**Clip**	11893–393
54937	**15**	**Rivet**	10301–50
54921	**16**	**Rivet**	10301–1
54920	**17**	**Rivet**	10301–1

Style "PL-2" Position Light Signal

Detail Parts

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	18	**Machine Screw,** No. 8-36x½" Fil. Hd. S. (Tin Pl.) with No. 8 Pl. S. Lock Washer ($\frac{1}{16}$"x$\frac{3}{64}$") (Tin Pl.) and Nut Ref. 18a.	
32498	18a	**Nut**	8109–223
31094	19	**Lead Complete**	B–9991–1
187821	20	**Reflector**	B–12652–14
187850	21	**Reflector Holder**	11893–734
158650	22	**Gasket**	8078–76
187870	23	**Separator**	8072–780
	24	**Machine Screw,** No. 10-30x½" Rd. Hd. S. (Tin Pl.) with Nut Ref. 24a.	
73494	24a	**Nut**	8265–126
	25	**Machine Screw,** No. 10-30x½" Rd. Hd. S. (Tin Pl.) with Washer Ref. 25a and No. 10 Crowner.	
12162	25a	**Washer**	7828–56
187852	26	**Reflector and Lamp Receptacle Plate Complete**	9999–1078
	27	**Machine Screw,** No. 14-24x½" Rd. Hd. S. (Tin Pl.) with ¼" Pl. S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{16}$") (Tin Pl.) and Washer Ref. 13.	
187771	28	**Lamp Unit Case**	C–9111–1
	29	**Door** with Gasket Ref. 30	C–9111–2
187849	30	**Gasket**	8078–1521
73098	31	**Thumb Screw Complete**	8331–49
147448	32	**Washer**	8078–422
170243	33	**Ventilator**	11893–573
	34	**Drive Screw,** No. 4x¼".	

Style "PL-2" Position Light Signal

Detail Parts

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
187774	**35**	**Hood**	C–9111–3
132949	**36**	**Light Deflecting Prism**	B–8276–33
187830	**37**	**Spring Holder**	8735–796
178935	**38**	**Yellow Cover Glass,** 5⅜″ diameter	B–8276–73
161117	**39**	**Lens Ring**	7436–147
187814	**40**	**Phankill Unit Complete**	C–9111–6
	41	**Machine Screw,** No. 14-24x1″ Rd. Hd. Br. (N.P.) with ¼″ Pl. S. Lock Washer (9/64″x5/64″) (Tin Pl.).	
	42	**Machine Screw,** No. 10-30x⅜″ Rd. Hd. Br. (N.P.)	
	43	**Machine Screw,** No. 10-30x⅜″ Fil. Hd. Br. (N.P.)	
157256	**44**	**Gasket**	8078–121
168741	**45**	**Lamp Bulb,** 8-Volts, 5-Watts, Single Contact	B–12409–18

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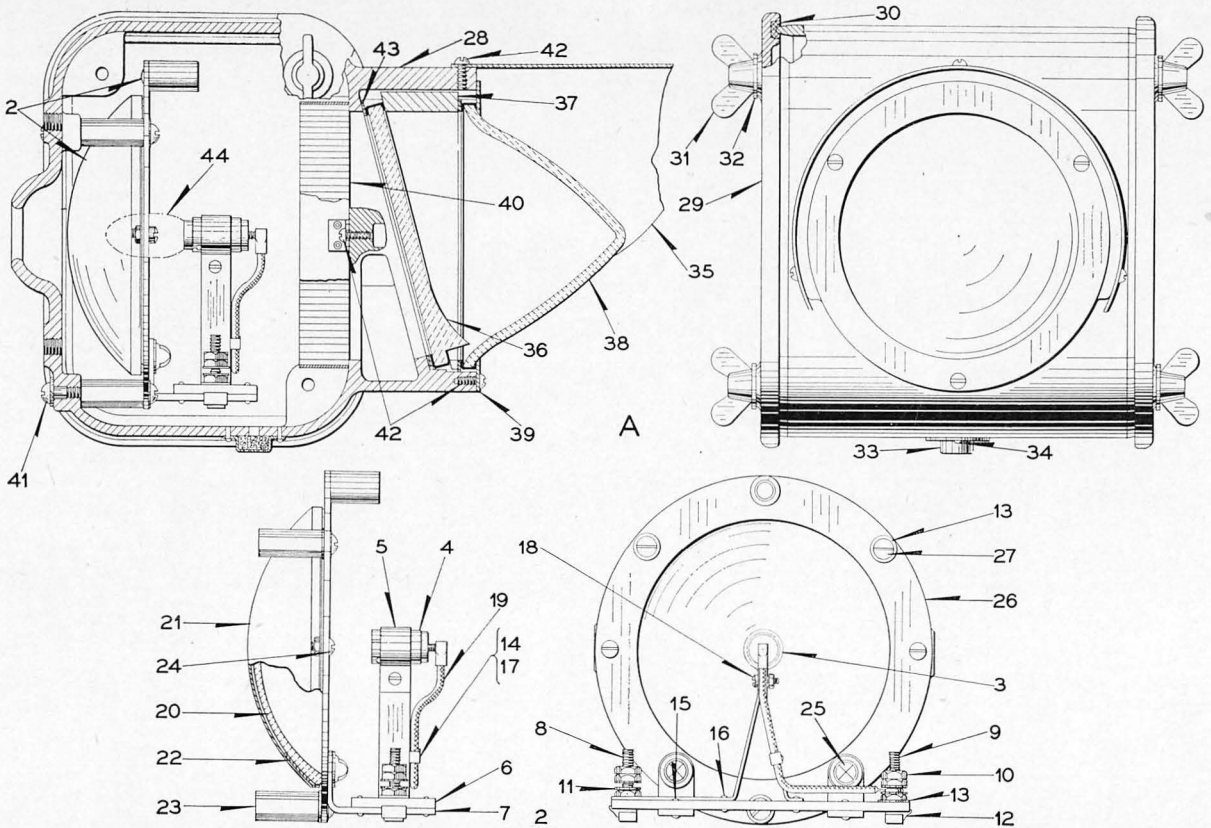

Lamp Unit for Style "PL-3" Position Light Signal

Style "PL-3" Position Light Signal

Detail Parts

Lamp Unit

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
107387	**A**	**Style "PL-3" Lamp Unit Complete** (Without Lamp Bulb)	C–9112–5
107386	**Aa**	**Style "PL-3" Lamp Unit Case with Doors, Ventilators and Thumb Screws** (Without Reflector, Hood, Cover Glass, Lens Ring and Phankill Unit (Inc. 1-28, 2-29, 4-31, 4-32, 1-33 and 2-34)	C–9112–5
187898	**2**	**Reflector with Single Contact Lamp Receptacle Complete**	C–9111–8
187856	**3**	**Single Contact Lamp Receptacle Complete** (Inc. 1-4, 1-5, 1-6, 2-7, 1-8, 1-9, 1-14, 4-15, 2-16, 1-17, 1-18 and 1-19)	12415–43
179004	**4**	**Lamp Socket**	12415–40
187858	**5**	**Receptacle Holder**	11893–729
187857	**6**	**Lamp Receptacle Board**	8750–2648
187869	**7**	**Bracket**	10914–612
	8	**Terminal Post with Nuts and Washers** (Inc. 1-8a, 3-10, 2-11 and 1-12)	12451–
122489	**8a**	**Terminal Post Only**	8094–1192
	9	**Terminal Post with Nuts and Washers** (Inc. 1-8a, 3-10, 2-11, 1-12 and 1-13)	12451–
29103	**10**	**Nut**	8109–194
29102	**11**	**Washer**	7828–139
186420	**12**	**Lock Washer**	8486–362
29104	**13**	**Washer**	7828–138
147988	**14**	**Clip**	11893–393
54937	**15**	**Rivet**	10301–50
54921	**16**	**Rivet**	10301–1

Style "PL-3" Position Light Signal

Detail Parts

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
54920	**17**	**Rivet**	10301–1
	18	**Machine Screw,** No. 8-36x½" Fil. Hd. S. (Tin Pl.) with No. 8 Pl. S. Lock Washer (1/16"x3/64") (Tin Pl.) and Nut Ref. 18a.	
32498	**18a**	**Nut**	8109–223
31094	**19**	**Lead Complete**	B–9991–1
187821	**20**	**Reflector**	B–12652–14
187850	**21**	**Reflector Holder**	11893–734
158650	**22**	**Gasket**	8078–76
187870	**23**	**Separator**	8072–780
	24	**Machine Screw,** No. 10-30x½" Rd. Hd. S. (Tin Pl.) with Nut Ref. 24a.	
73494	**24a**	**Nut**	8265–126
	25	**Machine Screw,** No. 10-30x½" Rd. Hd. S. (Tin Pl.) with Washer Ref. 25a and No. 10 Crowner.	
12162	**25a**	**Washer**	7828–56
187852	**26**	**Reflector and Lamp Receptacle Plate Complete**	9999–1078
	27	**Machine Screw,** No. 14-24x½" Rd. Hd. S. (Tin Pl.) with ¼" Pl. S. Lock Washer (3/32"x1/16") (Tin Pl.) and Washer Ref. 13.	
107354	**28**	**Lamp Unit Case**	C–9111–10
	29	**Door** with Gasket Ref. 30	C–9111–2
187849	**30**	**Gasket**	8078–1521
73098	**31**	**Thumb Screw Complete**	8331–49
147448	**32**	**Washer**	8078–422
170243	**33**	**Ventilator**	11893–573

Style "PL-3" Position Light Signal

Detail Parts

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	34	**Drive Screw,** No. 4x¼".	
187774	35	**Hood**	C–9111–3
208746	36	**Light Deflecting Prism**	B–8276–82
214291	37	**Spacer Ring**	C–9111–9
64512	38	**Yellow Conical Cover Glass,** 5⅜" diameter	8468–29
161117	39	**Lens Ring**	7436–147
187814	40	**Phankill Unit Complete**	C–9111–6
	41	**Machine Screw,** No. 14-24x1" Rd. Hd. Br. (N.P.) with ¼" Pl. S. Lock Washer ($\frac{9}{64}$"x$\frac{5}{64}$") (Tin Pl.).	
	42	**Machine Screw,** No. 10-30x⅜" Rd. Hd. Br. (N.P.)	
175349	43	**Gasket**	8078–1503
215005	44	**Lamp Bulb,** 12-Volts, 9-Watts, Single Contact	B–12409–28
215370	44a	**Lamp Bulb,** 12-Volts, 6-Watts, Single Contact	B–12409–28

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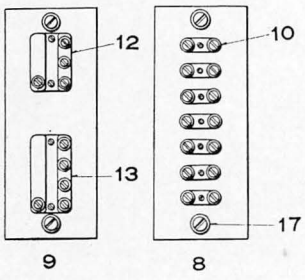

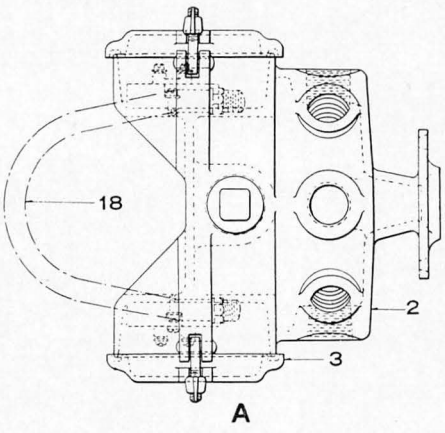

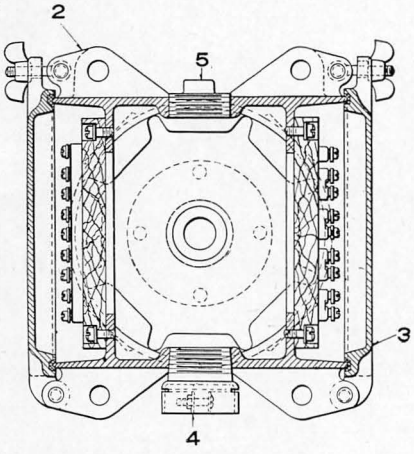

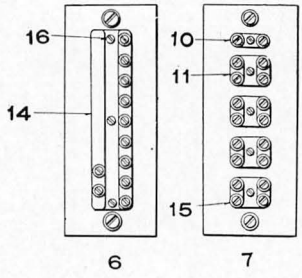

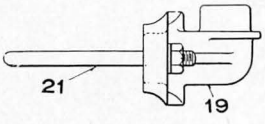

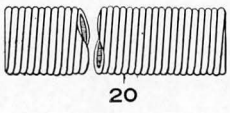

Combined Lamp Support and Terminal Box and Wire Outlet for Position Light Signals

UNION SWITCH & SIGNAL CO.

COMBINED LAMP SUPPORT AND TERMINAL BOX AND WIRE OUTLET FOR POSITION LIGHT SIGNALS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	A	**Combined Lamp Support and Terminal Box,** with U-Bolts as shown for attaching to 5″ Pipe (Includes 1-Aa and 2-18)	C–8965–1
95804	**Aa**	**Combined Lamp Support and Terminal Box** (without U-Bolts)	C–8965–1
	2	**Combined Lamp Support and Terminal Box** with Eye Bolts Ref. 2a and Rivets Ref. 2c only for Ref. Aa	C–8964–1
59907	**2a**	**Eye Bolt** for Ref. 2	8034–72
55983	**2b**	**Wing Nut** for Ref. 2a	8331–20
	2c	**Rivet,** ⅜″x1⅝″ Rd. Hd. I. for Ref. 2a.	
147183	**3**	**Door** with Gaskets Ref. 3a and ⅜″x3¼″ Rd. Hd. I. Rivet for Ref. Aa	C–8964–4
95821	**3a**	**Gasket** for Ref. 3	8078–1248
	3b	**Rivet,** ⅜″x3¼″ Rd. Hd. I. for Ref. 3.	
97577	**4**	**Coupling,** for Ref. A	B–10342–17
	4a	**Stove Bolt,** ¼″x1¼″ Rd. Hd. with Nut.	
	5	**Pipe Plug,** 2″ Std.	
95767	**6**	**Terimnal Board,** for Ref. Aa	9968–580
95766	**6a**	**Terminal Board** only for Ref. 6	9968–580
95769	**7**	**Terminal Board,** for Ref. Aa	9968–581
95768	**7a**	**Terminal Board** only for Ref. 6	9968–581
118285	**8**	**Terminal Board**	9968–636

UNION SWITCH & SIGNAL CO.

COMBINED LAMP SUPPORT AND TERMINAL BOX AND WIRE OUTLET FOR POSITION LIGHT SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
118284	**8a**	**Terminal Board** only	9968–636
118283	**9**	**Terminal Board**	9968–637
118282	**9a**	**Terminal Board** only	9968–637
95794	**10**	**Terminal Connector** (2-way) for Ref. 8	8064–501
117288	**10a**	**Terminal Connector** only for Ref. 10	8064–501
95756	**11**	**Terminal Connector** (4-way) for Ref. 7	8064–531
94313	**11a**	**Terminal Connector** only for Ref. 11	8064–531
118289	**12**	**Terminal Connector** (4-way) for Ref. 9	8064–546
118288	**12a**	**Terminal Connector** only for Ref. 12	8064–546
118291	**13**	**Terminal Connector** (5-way) for Ref. 9	8064–547
118290	**13a**	**Terminal Connector** only for Ref. 13	8064–547
95757	**14**	**Terminal Connector** (11-way) for Ref. 6	8064–532
94328	**14a**	**Terminal Connector** only for Ref. 14	8064–532
	15	**Machine Screw, No. 14-24x½″** Fil. Hd. Brass for Refs. 10, 11, 12, 13 and 14.	
	15a	**Machine Screw, No. 14-24x¾″** Fil. Hd. Brass for Refs. 10 and 11.	
84	**15b**	**Washer** for Refs. 15 and 15a	7826–6
	16	**Wood Screw, No. 8x¾″** Rd. Hd. S. (Cad. Pl.) for fastening Terminal Connectors to Terminal Boards.	

Combined Lamp Support and Terminal Box and Wire Outlet for Position Light Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	17	**Machine Screw,** $\frac{5}{16}$″-18x$\frac{3}{4}$″ Fil. Hd. S. for fastening Refs. 6, 7, 8 and 9 to Ref. 2.	
70369	**17a**	**Washer** for Ref. 13	7826–180
95838	**18**	**U-Bolt,** $\frac{3}{4}$″ with $\frac{3}{4}$″ Hex. Nut and $\frac{3}{4}$″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{16}$″) for Ref. A	8782–159
97611	**19**	**Wire Outlet** with Gasket for Ref. A for 5″ or 6″ Pipe (without U-Bolt)	B–10342–41
97619	**19a**	**Gasket** for Ref. 19	8078–942
	20	**Conduit,** 2″ I. D. x2$\frac{9}{16}$″ O. D. Greenfield double strip flexible. (Specify length when ordering).	
46567	**21**	**U-Bolt,** $\frac{1}{2}$″ with $\frac{1}{2}$″ Hex. Nut and $\frac{1}{2}$″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″) for 5″ Pipe for Ref. 19	8782–77
60389	**21a**	**U-Bolt,** $\frac{1}{2}$″ with $\frac{1}{2}$″ Hex. Nut and $\frac{1}{2}$″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″) for 6″ Pipe for Ref. 19	8782–109

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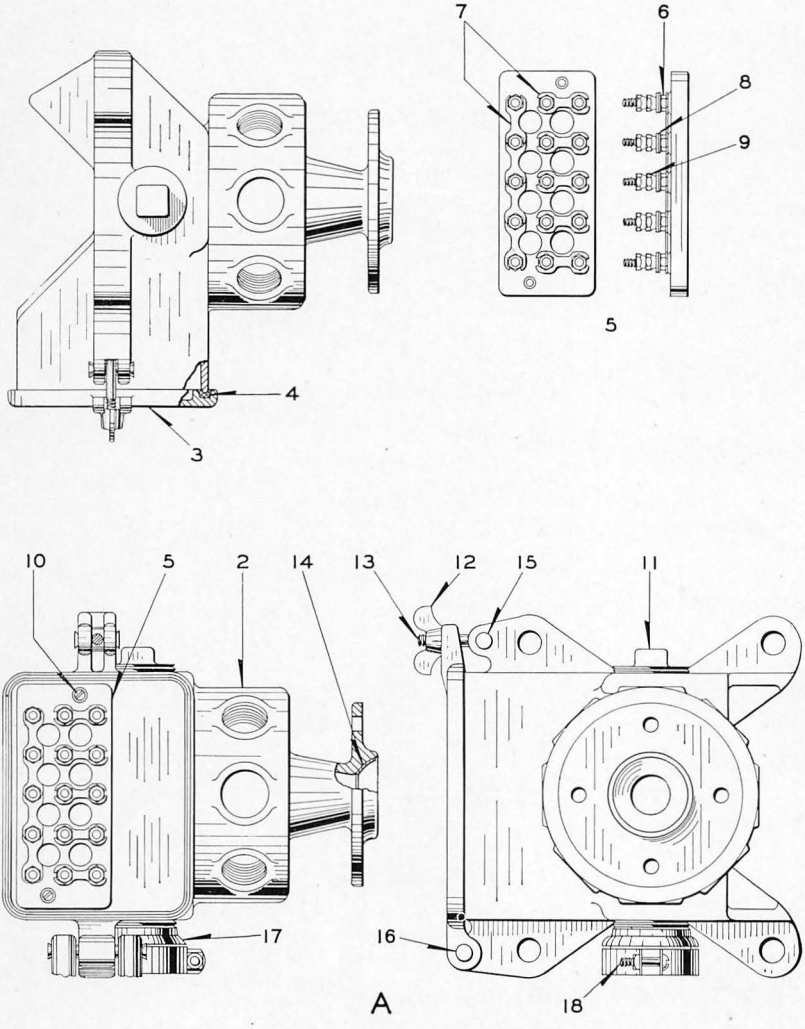

Combined Lamp Support and Terminal Box for Position Light Signals

Position Light Signals

Detail Parts

Combined Lamp Support and Terminal Box

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
187832	**A**	**Combined Lamp Support and Terminal Box Complete with Terminal Board, Door, Gaskets, Wing Nuts, Pipe Plug and Outlet**	C–9112–3
187806	**2**	**Combined Lamp Support and Terminal Box Only** (Without Terminal Board, Door, Gaskets, Wing Nuts, Pipe Plug and Outlet)	C–9111–5
	3	**Door** with Gasket Ref. 4	C–9111–2
187845	**4**	**Gasket** for Ref. 3	8078–1521
	5	**Terminal Board** with Nuts, Washers and Jumpers (Inc. 1-5a, 15-6, 9-7, 30-8 and 30-9)	9968–1118
187905	**5a**	**Terminal Board** with Posts only (Without Nuts, Washers and Jumpers)	9968–1118
127260	**6**	**Nut**	8109–194
175795	**7**	**Jumper**	8064–731
29102	**8**	**Washer**	7828–139
29101	**9**	**Nut**	8109–193
	10	**Machine Screw,** No. 14-24x¾″ Fil. Hd. S. (Tin Pl.).	
	11	**Pipe Plug,** 2″ C.I.	
55983	**12**	**Wing Nut**	8331–20
59907	**13**	**Eye Bolt**	8034–72
104605	**14**	**Gasket**	8078–1042
26105	**15**	**Pin**	B–10207–1
188042	**16**	**Pin**	B–10207–1
74551	**17**	**Outlet** with Bolt and Nut	B–10342–17
	18	**Bolt,** ¼″x1¼″ (Tin Pl.) and Nut (Tin Pl.) for Ref. 17.	

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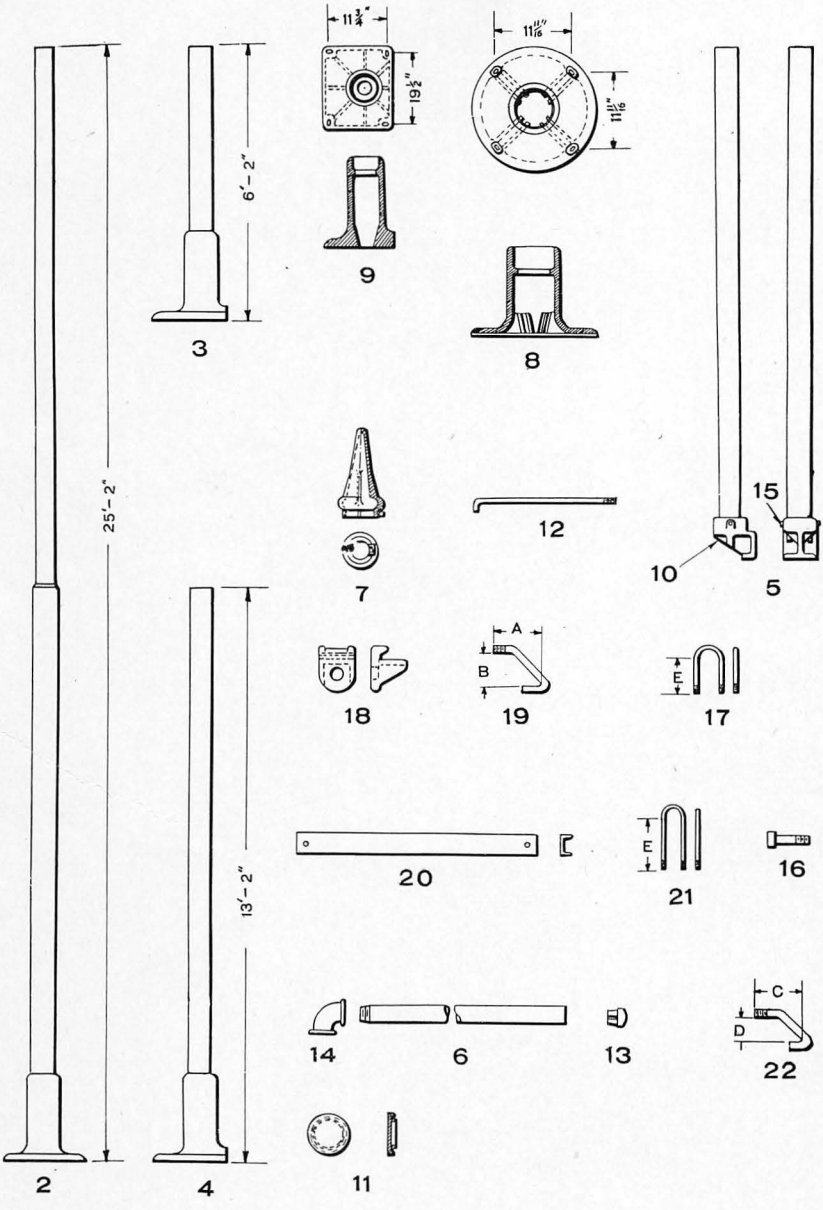


Posts and Details for Position Light Signals

UNION SWITCH & SIGNAL CO.

POSTS AND DETAILS FOR POSITION LIGHT GROUND AND BRIDGE SIGNALS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
116587	2	**Post,** 5″ and 6″ Pipe drilled for Wire Outlets with A. R. A. Base as shown for 1-Arm and Marker Position Light Ground Signal, 25 ft. 2″ from bottom of Base to top of Post. (See Ref. 3, Plate B-2401)	B–9893–80
117111	2a	**Post,** 5″ and 6″ Pipe drilled for Wire Outlet, complete, with A. R. A. Base for 1-Arm Position Light Ground Signal (without Marker), 25 ft. 2″ from bottom of Base to top of Post. (See Ref. 3a, Plate B-2401)	B–9893–80
116588	2b	**Post,** 5″ and 6″ Pipe drilled for Wire Outlets, complete, with A. R. A. Base for 2-Arm Position Light Ground Signal, 25 ft. 2″ from bottom of Socket to top of Post. (See Ref. 3, Plate B-2405)	B–9893–80
68539	2c	**Post,** 5″ and 6″ Pipe, 25 ft. 0″ long (without Base or Drilling for Refs. 2, 2a or 2b)	B–5161–29
	3	**Post,** 5″ Pipe, drilled for Wire Outlet, complete with A. R. A. Base as shown for 1-Arm Position Light Bridge Signal and Top Arm of 2-Arm Position Light Bridge Signal, 6 ft. 2″ from bottom of Base to top of Post. (See Ref. 2, Plate B-2410)	B–9893–66
63023	3a	**Post,** 5″ Pipe, 6 ft. 0″ long (without Base for Ref. 3)	B–10920–4
	3b	**Post,** 5″ Pipe, drilled for Wire Outlet, complete with A. R. A. Base as shown for 1-Arm Position Light Bridge Signal and Top Arm of 2-Arm Position Light Bridge Signal, 4 ft. 8″ from bottom of Base to top of Post (see Ref. 2, Plate B-2410)	B–9893–66
119815	4	**Post,** 5″ Pipe, drilled for Wire Outlet, complete with A. R. A. Base as shown for 1-Arm and Marker Position Light Signal for Cantilever Mounting, 13 ft. 2″ from bottom of Base to top of Post. (See Ref. 3, Plate B-2415)	B–9893–80

PLATE B-2443

UNION SWITCH & SIGNAL CO.

POSTS AND DETAILS FOR POSITION LIGHT GROUND AND BRIDGE SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
117726	**4a**	**Post,** 5″ Pipe, drilled for Wire Outlet, complete with A. R. A. Base for 2-Arm Position Light Signal for Cantilever Mounting, 13 ft. 2″ from bottom of Base to top of Post. (See Ref. 4, Plate B-2415)	B–9893–80
33406	**4b**	**Post,** 5″ Pipe, 13 ft. 0″ long (without Base or drilling)	B–10920–2
	5	**Post,** 5″ Pipe, with Base for Bottom Arm of 2-Arm Position Light Bridge Signal as shown (without Cover Plate Ref. 11 and U-Bolts). Specify length of Post or supply dimensions of the Bridge on which the Signals are to be mounted	B–9893–25
	5a	**Post,** 5″ Pipe (without Base Ref. 10, Cover Plate Ref. 11, and U-Bolts Ref. 17). Specify length of Post or supply dimensions of Bridge on which the Signals are to be mounted	B–10920
	6	**Post,** 1¼″ Pipe for Marker Light mounted on Bridge (without Plug Ref. 13 and Elbow Ref. 14). Specify length of Post or supply dimensions of the Bridge on which the Marker Lights are to be mounted	B–12477–1
68566	**7**	**Pinnacle** for 5″ Pipe	B–8121–11
44938	**8**	**Base** A. R. A. for 6″ Pipe for Refs. 2, 2a and 2b	C–6782–1
61092	**9**	**Base** A. R. A. for 5″ Pipe for Refs. 3, 4 and 4a	C–7583–1
63429	**10**	**Base** for 5″ Pipe for Ref. 5	B–9104–1
87799	**11**	**Cover Plate** for Ref. 5	B–9931–3
10276	**12**	**Foundation Bolt, 1″x3 ft. 0″** with 1″ Hex. Nut and 1″ Plate Washer for Ground Signals	7913–54

UNION SWITCH & SIGNAL CO.

POSTS AND DETAILS FOR POSITION LIGHT GROUND AND BRIDGE SIGNALS

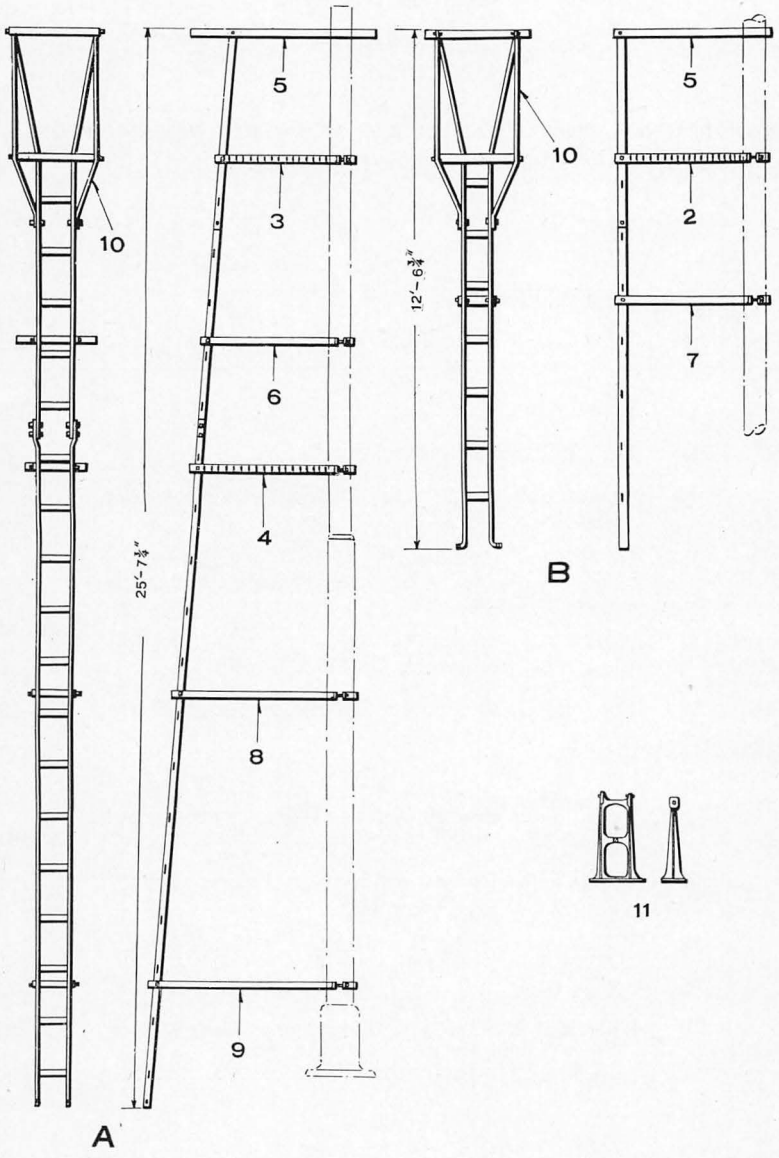
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
94355	**13**	**Plug** for Ref. 6	C–8964–3
	14	**1¼″ Std. Elbow** loricated, for Ref. 6.	
	15	**Sq. Hd. Bolt, ¾″x8″** with ¾″ Hex. Nut for fastening Ref. 5a to Ref. 10.	
	16	**Sq. Hd. Bolt, 1″x3″** with 1″ Hex. Nut and 1″ Lock Washer (¼″x¼″) for fastening Bridge Signals to Channel Irons.	
73417	**17**	**U-Bolt, ¾″** with ¾″ Hex. Nut and ¾″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{16}$″) for securing Post Ref. 5 to Bridge	8782–148
73418	**18**	**Clip** for Ref. 17	C–8863–6
117353	**18a**	**Clip** for Ref. 21	C–8964–13
	19	**Hook Bolt, ¾″** with ¾″ Hex. Nut and ¾″ Plate Washer for securing Ref. 5 to Bridge (orders should specify A and B Dimensions)	7913–282
	20	**Channel Iron** for securing Signal to Bridge. Supply Dimension P, Plate B-2410	B–9906–59
	21	**U-Bolt, ½″** with ½″ Hex. Nut and ½″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″) for securing Ref. 6 to Bridge. Specify "B" Dimension	8782–164
	22	**Hook Bolt, 1″** with 1″ Hex. Nut and 1″ Lock Washer ($\frac{3}{16}$″x$\frac{3}{16}$″) for securing Ref. 20 to Bridge. Specify "C and "D" Dimensions	7913

PLATE B-2446

UNION SWITCH & SIGNAL CO.



LADDERS FOR POSITION LIGHT SIGNAL

UNION SWITCH & SIGNAL CO.

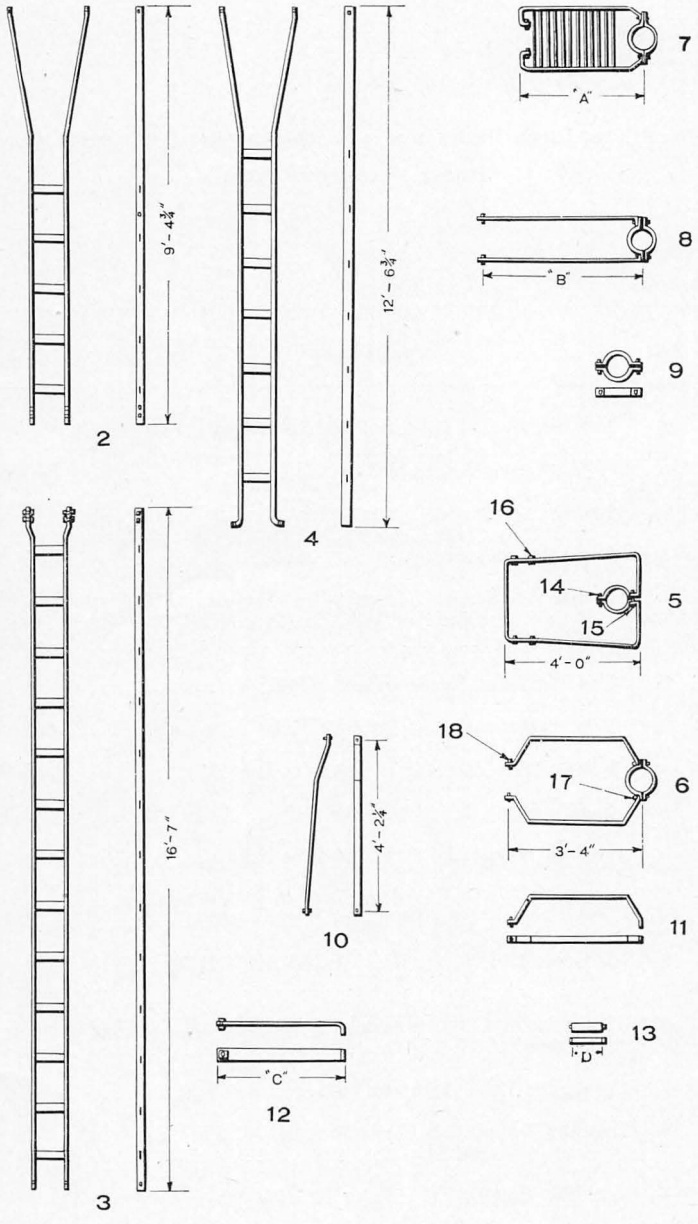
LADDERS AND DETAILS FOR POSITION LIGHT SIGNALS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
116619	**A**	**Ladder, 25 ft. 7¾″** long, with Handrails, Platforms and Stays as shown for 1-Arm Ground Signal with Marker or 2-Arm Ground Signal	B–10313–280
	Aa	**Ladder, 25 ft. 7¾″** long, with Handrail, Platform and Stays, for 1-Arm Ground Signal (without Marker)	B–10313–280
117822	**B**	**Ladder, 12 ft. 6¾″** long, with Handrail, Platform and Stay as shown, for 2-Arm Signal for Cantilever Mounting	B–10313–287
117817	**2**	**Top Platform,** for 5″ Pipe for Ref. B	B–7501–73
116628	**3**	**Top Platform,** for 5″ Pipe for Refs. A or Aa	B–7501–73
115047	**4**	**Bottom Platform,** for 5″ Pipe for Ref. A	B–7501–64
116626	**5**	**Top Handrail,** for 5″ Pipe for Refs. A, Aa and B	B–7501–73
116630	**6**	**Bottom Handrail,** for 5″ Pipe for Ref. A	B–7501–73
70932	**7**	**Stay,** for 5″ Pipe for Ref. B (3 ft. 4″ centers), with two ½″x1″ Sq. Hd. Bolts and Sq. Nuts	B–7501–51
116632	**8**	**Stay,** for 6″ Pipe for Refs. A and Aa (4 ft. 0½″ centers)	B–7501–73
116634	**9**	**Stay,** for 6″ Pipe for Refs. A and Aa (4 ft. 7½″ centers)	B–7501–73
116624	**10**	**Brace** for Refs. A, Aa and B	B–8365–72
62563	**11**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
	11a	**Sq. Hd. Bolt, ½″x1¼″,** for Ref. 11.	
	11b	**Hex. Nut ½″,** for Ref. 11a.	

PLATE B-2449

UNION SWITCH & SIGNAL CO.



DETAILS OF LADDERS FOR POSITION LIGHT SIGNALS

UNION SWITCH & SIGNAL CO.

DETAILS OF LADDERS FOR POSITION LIGHT SIGNALS

For Complete Ladders see Plate B-2446

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
116618	**2**	**Top Ladder Section,** as shown, 9 ft. 4¾″ long	B–10313–280
116621	**3**	**Bottom Ladder Section,** as shown, 16 ft. 7″ long	B–10313–280
117821	**4**	**Ladder,** as shown, 12 ft. 6¾″ long	B–10313–287
116626	**5**	**Top Handrail,** as shown	B–7501–73
116630	**6**	**Bottom Handrail,** as shown	B–7501–73
116628	**7**	**Top Platform,** for 5″ Pipe ("A" dimension, 3 ft. 0¾″), for Ref. B, Plate B-2446)	B–7501–73
117817	**7a**	**Top Platform,** for 5″ Pipe ("A" dimension, 3 ft. 4¾″), for Ref. A, Plate B-2446)	B–7501–73
115047	**7b**	**Bottom Platform,** for 5″ Pipe ("A" dimension, 3 ft. 7¾″), for Ref. A, Plate B-2446)	B–7501–64
70932	**8**	**Stay, complete,** for 5″ Pipe ("B" dimension, 3 ft. 4″ for Ref. B, Plate B-2446), with two ½″x1″ Sq. Hd. Bolts and Sq. Nuts	B–7501–51
116632	**8a**	**Stay, complete,** for 6″ Pipe ("B" dimension, 4 ft. 0½″, for Refs. A and Aa, Plate B-2446)	B–7501–73
116634	**8b**	**Stay,** complete, for 6″ Pipe ("B" dimension, 4 ft. 7½″), for Refs. A and Aa, Plate B-2446)	B–7501–73
85591	**9**	**Clamp,** for 5″ Pipe	B–7501–8
85592	**9a**	**Clamp,** for 6″ Pipe	B–7501–8
116624	**10**	**Brace,** as shown	B–8365–72
116629	**11**	**Handrail,** side for Ref. 6 with one ½″x1″ Sq. Hd. Bolt and Sq. Nut	B–7501–73

PLATE B-2449

UNION SWITCH & SIGNAL CO.

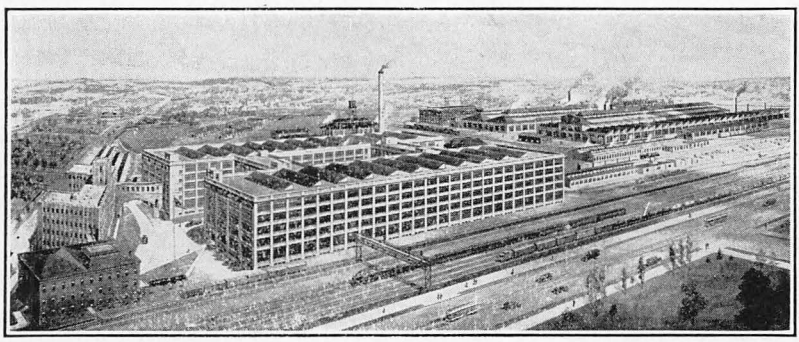
DETAILS OF LADDERS FOR POSITION LIGHT SIGNALS

(Continued)

For Complete Ladders see Plate B-2446

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
44490	**12**	**Side** for Stay Ref. 8 ("C" dimension, 3 ft. 4¼"), with one ½"x1" Sq. Hd. Bolt and Sq. Nut.....	B–7501–12
58744	**12a**	**Side** for Stay Ref. 8a ("C" dimension, 4 ft. 0"), with one ½"x1" Sq. Hd. Bolt and Sq. Nut.....	B–7501–33
116633	**12b**	**Side** for Stay Ref. 8b ("C" dimension, 4 ft. 7¾"), with one ½"x1" Sq. Hd. Bolt and Sq. Nut.....	B–7501–33
139	**13**	**Rung** for Ladders ("D" dimension, 8").....	B–8365–1
31947	**13a**	**Rung** for Platforms ("D" dimension, 16½").....	B–8365–11
36830	**14**	**Bolt, ½"x1¾"** Sq. Hd. with ½" Sq. Nut, for Refs. 5 and 9	8280–81
116631	**15**	**Bolt, ½"x2¼"** Sq. Hd. with ½" Sq. Nut, for Ref. 5..	8280–81
	16	**Bolt, ½"x1¼"** Sq. Hd. with ½" Sq. Nut, for Ref. 5.	
36832	**17**	**Bolt, ½"x2"** Sq. Hd. with ½" Sq. Nut for Refs. 6, 7 and 8.....	8280–81
	18	**Bolt, ½"x1"**, Sq. Hd. with ½" Sq. Nut for Refs. 3, 6, 7, 8, 10, 11 and 12.	



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Section

B

Plates B-2500 to B-2600

SIGNALS

Color Light Signals

Styles

"R-2", "TR-2", "P-5", "TP-5", "N", "N-2", "N-3", "TN" and "TN-2"

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GENERAL INFORMATION AND ORDERING INSTRUCTIONS FOR COLOR LIGHT SIGNALS

1—In this catalog will be found plates and ordering references covering assemblies and detail parts of the Styles "R-2", "TR-2", "P-5", "TP-5", "N", "N-2" and "N-3" Color Light Signals.

2—Light Signals are divided into classes by their range. The range required is determined by the speed at which trains may run, assuming an unobstructed view and signals on tangent track.

3—A long range signal is secured by accurate location of the lamp filament at the focal center of the lensing system. Maximum economy of energy is secured by the use of lamps having concentrated filaments. The range and spread of a light signal will vary considerably with the type of lamp used, the more distributed the filament, the greater the spread, and the shorter the range.

4—Extensive use has proved that the 8⅜″ lens is ample for the very exacting requirements of long range signals in high speed steam road service. The 6⅜″ lens serves the purpose very well for short range signals.

STYLES "R-2" AND "TR-2" LIGHT SIGNALS: (Formerly Styles R and TR respectively).

5—The Styles "R-2" and "TR-2" Signals consist of a signal case containing the lamp units, supporting brackets for attaching the case to the mast, a platform, ladder, mast, socket and pinnacle. The signal may be arranged for mounting directly on a foundation or on top of a single or double instrument case. By means of the adjustable supporting brackets any desirable alignment of the signal in either the horizontal or vertical plane may be secured. The adjustments in these two planes are entirely independent. The signal can be aligned approximately with very little difficulty by simply pointing it in the direction desired, but for accurate alignment and to secure the best long range indication on tangent track as well as on curves, a sighting telescope should be used. Mounting Brackets of the Styles "R-2" and "TR-2" Signals allow the Units to be located a maximum of 15″ off center of the Pole, either to right or left.

6—Styles "R" and "TR" Signals can be converted into "R-2" and "TR-2" by applying close up indication deflecting unit Ref. 7 or 7a, Plate B-2531 between inner and outer lenses. All other details are exactly the same.

STYLES "P-5" AND "TP-5" LIGHT SIGNALS:

7—The "P-5" Signals are designed to provide accuracy in both the vertical and horizontal alignments and also, to meet the requirement of some railroads that the signal have a built-in sight, making a separate sighting telescope, such as that shown on Plate B-2600, Fig. A, unnecessary.

8—The adjustable supporting socket for the "P-5" Signal, illustrated in Fig. 1 is made up of two cast iron sleeves, one fitting over the other and so designed that the outer sleeve will rotate on the inner one, all points of contact between the two being machined and thus providing smooth and easy rotation. The inner sleeve is clamped directly to the supporting pipe by means of three set screws, and has two lugs, against which the two horizontal adjustment bolts bear. By "turning out" one of the bolts and "turning in" the other, the signal head is rotated about the inner sleeve, thus providing a micrometer adjustment in the horizontal plane. The vertical adjustment is obtained by means of tap bolts which bear on the adjusting bar.

9—The socket on the bottom of the signal case, as well as the top of the outer sleeve or supporting casting are made cylindrical in shape in the horizontal direction, the centers of the cylindrical surfaces coinciding with the center of the pin upon which the signal head is pivoted. With this arrangement the clearance between the supporting casting and the socket on the signal case can be made a minimum as,

due to the cylindrical shape, there is no change in this clearance when the signal head is adjusted in the vertical direction. The opening through the base casting and the bottom of the case is sufficient for the entrance of any number of wires that will ever be used, and parkway cable may be brought directly into the signal head if desired.

10—The sighting device is built into the socket on the bottom of the signal case. This sighting device is accurately aligned parallel to the light beams. The procedure to be followed in aligning the signal is clearly outlined in the first paragraph of Instruction Pamphlet U-5032.

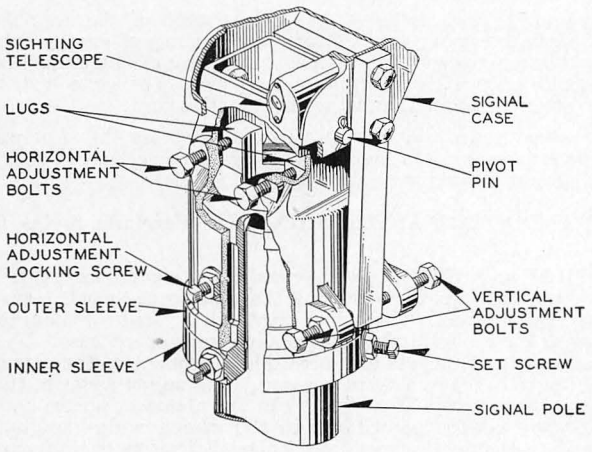

Fig. 1. Adjustable Supporting Socket for the Union Style "P-5" Color Light Signal

DESCRIPTION COMMON FOR STYLES "R-2", "TR-2", "P-5" AND "TP-5" LIGHT SIGNALS:

11—Standard Color Combinations of Signal Units.

2 Indication Unit	3 Indication Unit	3 Indication Triangular
Upper Lens—Green Lower Lens—Red	Upper Lens—Green Center Lens—Yellow Lower Lens—Red	L.H. Upper Lens—Green R.H. Upper Lens—Yellow Lower Lens—Red

12—Special deflecting prisms of 10 or 20 degree spread can be applied over the 8⅜" doublet lens where additional spread of light is required on account of curves. The 10 degree prism is sufficient in most cases. The 20 degree prism takes care of extreme requirements. Deflecting prisms spread the light in the horizontal plane and on one side only. See Refs. 21 and 21a, Plate B-2531.

13—These Signals require special rebased lamps. Orders should specify the lamp bulb desired by referring to Plate B-2571.

14—Signal cases for D.C. lighting are provided with A.A.R. terminals to which the lamp receptacles are connected. (Except where both a Style "L-10" Lightout Relay and a backlight are used.) These same cases can be used for A.C. lighting

where one transformer furnishes power for all units, in which case the secondary circuit is selected through the proper control relays.

15—A more satisfactory arrangement for A.C. lighting is provided in Styles "R-2" and "P-5" signal cases with individual transformers for each lamp unit. With this arrangement the primary circuits of the transformers are selected through the proper control relays. This provides better voltage regulation on the lamps and considerably reduces the current carried by the relay contacts. Lamp receptacles are connected directly to the transformer secondaries. Outside wires are brought to the primary side of the transformers in A.C. signals or to the A.A.R. terminals in D.C. signals. This arrangement affords a ready means for connecting instruments when taking voltage and current readings.

16—The case and the lamp units are ventilated. A hasp is provided for locking the door.

17—Style "L-10" Lightout Relays of the design shown on Plate E-5080 can be furnished with all Styles "R-2" and "P-5" D.C. Signals, (except 2 color with backlight on bottom light) but where both "L-10" Lightout Relays and backlights are used, the terminal board is omitted and outside wires are connected direct to A.A.R. binding posts on the relay and lamp receptacles.

LAMP UNIT:

18—The Lamp Unit itself is the same in the "R-2", "TR-2", "P-5" and "TP-5" Signals. It consists of a doublet lens, the 8⅜" diameter objective lens being clear and the inner lens being colored.

19—Each lamp unit consists of an accurately machined lens casting to which is assembled a special bayonet lamp receptacle and a doublet lens. The lamp receptacle is supported in a fixed relationship to the lenses in order that the lamps, which are accurately based, may be interchangeable. Thus the lamp filament is brought to the exact focal point of the lens system and the range of the signal is not altered by lamp replacement. The superiority of the Styles "R-2", "P-5", "TR-2" and "TP-5" signals is largely due to the accuracy with which the lamp units are constructed and adjusted. For this reason it is not desirable to have any changes made in the field which may affect the relative location of lenses and lamp receptacles. Lamp Units as a whole are interchangeable, and can be readily removed from the front of the signal case.

20—For "close up" indications lamp units are equipped with a deflecting unit, Ref. 7, Plate B-2531, providing a down spread of 25°. If specified a 50° down spread deflecting unit, Ref. 7a, Plate B-2531, will be supplied.

MAST SIZES:

21—All one and two arm Styles "R-2", "TR-2", "P-5" and "TP-5" Signals having dimensions and assembled as shown in these catalog plates, use 5 inch pipe masts. Some of these signals having three arms also use 5 inch pipe, but 5 inch and 6 inch (2 piece) pipe is used when all three arms are three light units and in some assemblies where instrument cases are not used.

STYLE "N" LIGHT SIGNALS:

22—The Style "N" Light Signal consists of a cast-iron case with either two or three openings to which have been applied doublet lenses. The clear objective lens is 6⅜" in diameter. A single door at the back of the case may be locked in its closed position by means of a padlock. Ventilators are provided.

23—The Style "N" Signal is aligned by means of a pipe socket equipped with three set screws which secure it to the top of a pole or supporting bracket.

24—The Style "N" Signal is equipped with a double screw based lamp receptacle for each indication. When 110 volt single filament lamps are used two bulbs may be used per indication thus providing added protection against a dark signal due to one lamp burning out. The 110 volt lamps due to their large filament produce a comparatively short range indication. A somewhat longer range can be obtained by using a separately housed transformer having a 110 volt primary and a 30 volt

secondary winding and using 30 volt 36 watt double filament lamps. If double filament lamps are used only one lamp per indication is necessary and it should be placed in the receptacle nearest the lens. Lamps used with the Style "N" Signal will be found on Plate B-2571.

STYLES "N-2" AND "N-3" SIGNALS:

25—The Style "N-2" Signal has the same case and method of mounting as the Style "N", the difference in the two signals being in the lens units. The "N-2" Signal has special bayonet lamp receptacles Ref. 19, Plate B-2532 which are accurately located and fixed in place, thus making it possible to replace lamp bulbs without making any adjustments. Any of the special rebased lamps shown on Plate B-2571 can be used in the Style "N-2" signal and orders for this signal should specify the lamp bulb required.

26—Style "N-2" Signal is used where a longer range than that obtained from a Style "N" is required, but where clearances are such that a signal smaller than the "R-2" or "P-5" is required. The Style "N-2" Signal having a 6⅜" outer lens is narrower than the "R-2" or "P-5".

27—The Style "N-3" Signal is the same as the Style "N-2" with the exception of the mounting. The "N-3" signal has an adjustable mounting that is similar to that of the "P-5" and in addition is equipped with a sighting device, therefore this signal is much easier to align than the similar "N-2" signal.

28—Standard Color Combinations of Styles "N", "N-2" and "N-3" Signal Units.

2 Indication Unit	3 Indication Unit
Upper Lens—Green Lower Lens—Red	Upper Lens—Green Center Lens—Yellow Lower Lens—Red

DWARF SIGNALS:

29—The Styles "N" and "N-2" Dwarf Signals make use of the same case, the difference in the two signals being in the lens units. The Style "N" Signal is equipped with a double screw based lamp receptacle for each indication. When 110 volt single filament lamps are used two bulbs may be used per indication thus providing added protection against a dark signal due to one lamp burning out. The 110 volt lamps due to their large filament produce a comparatively short range indication. A somewhat longer range can be obtained by using a separately housed transformer having a 110 volt primary and a 30 volt secondary winding and using 30 volt 36 watt double filament lamps. If double filament lamps are used only one lamp per indication is necessary and it should be placed in the receptacle nearest the lens. The "N-2" Signal has special bayonet lamp receptacles, which are accurately located and fixed in place thus making it possible to replace lamp bulbs without making any adjustments. Any of the special rebased lamps shown on Plate B-2571 can be used in the Style "N-2" signal and orders for this signal should specify the lamp bulb required.

30—A triangular arrangement of lenses can be furnished, these signals being designated as "TN" and "TN-2" to correspond with the vertical designs, "N" and "N-2", described above. The advantage of the triangular arrangement is that it provides greater clearances where a three-color dwarf signal is used.

31—These signals, like the high signals, are ordinarily installed with a separate transformer.

32—All two arm Styles "N","N-2" and "N-3" Signals having dimensions and assembled as shown in these catalog plates use 4 inch pipe. Most of these signals having three arms use 4 inch and 5 inch (2 piece) pipe.

BACKLIGHTS:

33—Backlights can be supplied as follows:

Style of Signal	Location of Backlight
2-Color Style "R-2" without Individual Transformers or "L-10" Relay	Bottom Light per Plate B-2521 or Top Light per Plate B-2521½
2-Color Style "P-5" without Individual Transformers or "L-10" Relay	Bottom Light per Plate B-2521
2-Color Style "R-2" with Individual Transformers or "L-10" Relay	Top Light per Plate B-2521½
3-Color Style "R-2" with or without Individual Transformers or "L-10" Relay	Bottom Light per Plate B-2521 or Top Light per Plate B-2521½
3-Color Style "P-5" with or without Individual Transformers or "L-10" Relay	Bottom Light per Plate B-2521
3-Color Triangular Styles "TR-2" and "TP-5" without Individual Transformers or "L-10" Relay	Bottom Light per Plate B-2524
2 and 3-Color Styles "N" and "N-2" Dwarf Signals without Individual Transformers or "L-10" Relay	Bottom Light per Plate B-2512

MARKER LIGHTS:

34—Three types of marker lights are available as shown on Plate B-2514. A one color Style "R-2" or "HC-33" marker is used when the marker light must be free from phantom indications and where an 8″ diameter indication is required. The Style D semaphore lamp can be used if the marker is constantly illuminated in which case phantom indication would not be objectionable. The Style D marker produces a 5″ diameter beam.

SIGNAL LAMPS:

35—A number of lamps of various voltage and wattage ratings are available for color light signals. These lamps are shown on Plate B-2571. Figs. A, B and C are precision lamps for use in "R-2", "TR-2", "P-5", "TP-5", "N-2" and "N-3" signals, one color style "R-2" marker and style D marker with special bayonet base. The Fig. A lamps are double filament, both filaments being identical. One filament usually burns out first and the lamp should then be replaced. One filament burnt out does not always affect the indication to a noticable extent therefore these lamps should be inspected at regular intervals.

36—The Fig. B lamps are single filament and should be replaced after burning a given number of hours to prevent dark signals. The burning time depends upon voltage at which the lamps are operated and will have to be established as outlined in our Instruction Pamphlet U-5037.

37—The Fig. C lamps have special double filaments. The main filament is accurately located and has normal life while the secondary filament has much longer life and should outlast the main filament. Due to the secondary filament being low wattage and low candle power the reduced signal indication obtained from this filament alone is distinctive and serves to inform enginemen and maintainers of the need for lamp renewal before the signal becomes dark.

38—The D, E, and F screw base lamps are not of the precision type and are for use in Style "N" short range signals. These lamps can also be used in the style D marker with screw base lamp receptacle.

39—The Figs. G and H lamps (S-11) have single contact candelabra bayonet bases. They are for use in the style D marker light but can be used with suitable adapters in any of the color light signals. The bases are located with $\frac{1}{64}$" signal precision with respect to the filament and can be replaced without need for socket adjustment.

ORDERING INSTRUCTIONS

40—For a complete Signal, the following will be furnished unless otherwise specified:
Dimensions—as shown on Plate listing complete Signals.
Pipe Post—size to suit height and type of Signal. (See paragraphs 21 and 32 of Plate B-2500).
Signal Units—standard color combination and without Backlights, individual Transformers or "L-10" Relay. (See paragraphs 11 and 28 of Plate B-2500).

41—Complete Signals are furnished with Foundation Bolts, Ladder Foundation Pier, Pinnacle (where necessary) and Ladder to suit Signal desired.

42—When ordering a complete Signal, orders should contain the following information:

A—Number of Signal Units.

B—Type of Mounting, i.e., ground, bridge or bracket Signal. If Instrument Case is desired orders should refer to Section "L" Catalog, Plates L-1135 to L-1160, giving Plate Number and Reference of Case, lining and base casting for case.

C—Dimensions. If dimensions other than those shown on Plates B-2502, B-2504, B-2506 and B-2509 are desired, orders should specify dimensions "W", "X" and "Y" shown in Fig. 2. These apply to the location of the bottom lamp unit center in either a 2 or 3 light signal unit or the center of a one light marker light.

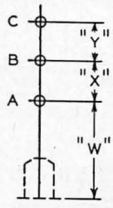

Fig. 2

D—Style of Units:

(a) 2 or 3-Color "R-2", "P-5", "N", "N-2", "N-3" or 3-Color "TR-2" or "TP-5".

(b) Color combination if other than standard is desired. (See paragraphs 11 and 28 of Plate B-2500).

(c) Backlight if desired. (See paragraph 33 of Plate B-2500).

(d) Individual Transformers or "L-10" Relay. (Style "R-2" and "P-5" Signal Units can be furnished with individual Transformers or "L-10" Relay mounted in the Signal Units; Styles "TR-2" and "TP-5" Signal Units for alternating current require Transformers or "L-10" Relay mounted in a separate case shown on Plate B-2590). If Transformers or "L-10" Relay are desired, orders should so state, specifying voltage and frequency for transformers and voltage and wattage of lamps when "L-10" Relay is wanted.

E—Mounting arrangement. If all units are not the same, mention the location of 2 light units, 3 light units or one light unit by referring to locations "A", "B" or "C" in Fig. 2. If it is desirable to mount signal units off center of pipe post, orders should specify "V" dimension shown in Fig. 3 and if unit is to be mounted on L.H. or R.H. side of post or if any other special pipe drilling is necessary. (This is necessary on account of post drillings for wires). The maximum "V" dimension for staggering signal units is:

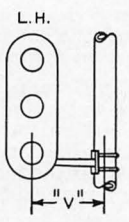

Fig. 3

Styles "R-2" and "TR-2"—15".
Styles "P-5", "TP-5", "N", "N-2" and "N-3"—13½".
Styles "R-2" and "HC-33" Marker Lights—17⅞".
Style "D" Semaphore Lamp—13⅝".

F—Lamp Bulb (Refer to Plate B-2571).
G—Marker Light (Refer to Plate B-2514).
H—Base (Refer to Plate B-2580 or B-2581).

43—Example:—If a special height Style "R-2" Signal is wanted as shown in Fig. 4, with units for D.C. operation and standard color combination, Single Instrument Case and 10-Volt, 18-Watt double filament lamp bulbs, the order should read as follows:—ONE 2-UNIT STYLE "R-2" GROUND SIGNAL, PLATE B-2502, WITH ONE UNIT REF. B, PLATE B-2517 IN LOCATION "B" AND ONE UNIT REF. A, PLATE B-2517 IN LOCATION "A"; UNIT IN LOCATION "A" TO BE MOUNTED ON L.H. SIDE OF POST, "V" DIMENSION 9″, "W" DIMENSION 10′-0″ AND "X" DIMENSION 5′-0″. INSTRUMENT CASE REF. A, PLATE L-1135 WITH LINING REF..... AND BASE REF.....; LAMP BULBS REF. Cb, PLATE B-2571.

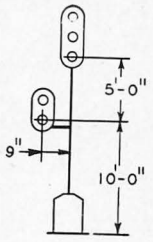

Fig. 4

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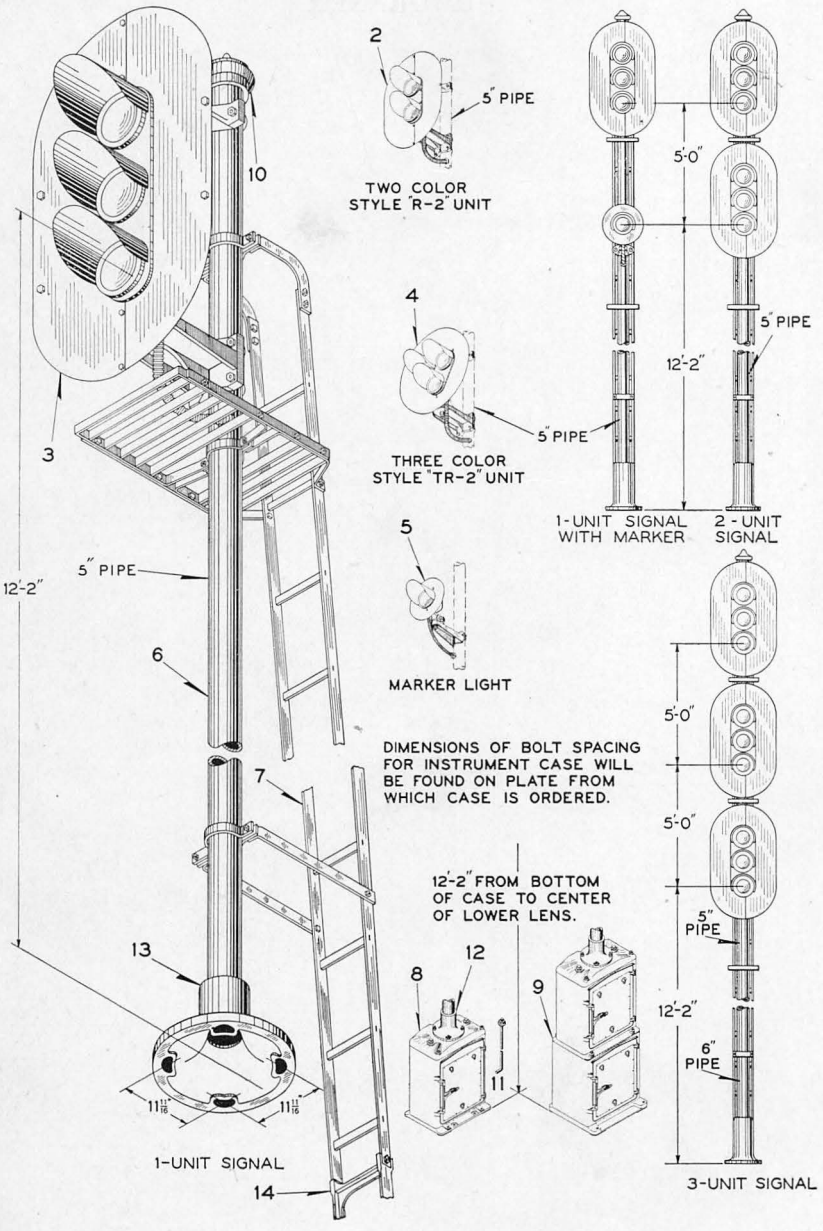

Styles "R-2" and "TR-2" Color Light Ground Signals

Styles "R-2" and "TR-2" Color Light Ground Signals Complete

When ordering a complete Signal refer to paragraphs 40 to 43 of Plate B-2500.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Parts	Piece	Ref.	Alternatives	Remarks	Detail Plates or Drawing Reference
Signal Units		2	2-Color Style "R-2"		B-2517
		3	3-Color Style "R-2"		
		4	3-Color Style "TR-2" Triangular		
Marker Light		5	1-Color Style "R-2"		B-2514
		5a	1-Color Style "D" C.I. Semaphore Lamp		
		5b	1-Color Style "HC-33"		
Pipe Post with Base Casting		* 6	For 1-Unit Signal		
		* 6a	For 2-Unit Signal		
		* 6b	For 3-Unit Signal		
Ladder		* 7	For 1-Unit Signal		B-2586
		* 7a	For 2-Unit Signal		
		* 7b	For 3-Unit Signal		
Instrument Case		8	Single Case		L-1135 to L-1160
		9	Double Case		
Pinnacle	**150818**	**10**		For 5″ Pipe or Casing	B-8121-17
Foundation Bolts	**10276**	**11**		1″x3′-0″ with Hex. Nut and Washer	7913-54
Base		12	For Instrument Case Mounting		B-2580 and B-2581
		13	For Ground Mounting		
Ladder Foundation Pier	**181370**	**14**		With Bolts for attaching Ladder	B-2586
Lamp Bulbs		**15**		Not shown	B-2571

*When separate Pipe Posts and Ladders are ordered, orders should be accompanied with the same information as required when ordering complete signals in order that Posts and Ladders with correct drilling and length can be supplied.

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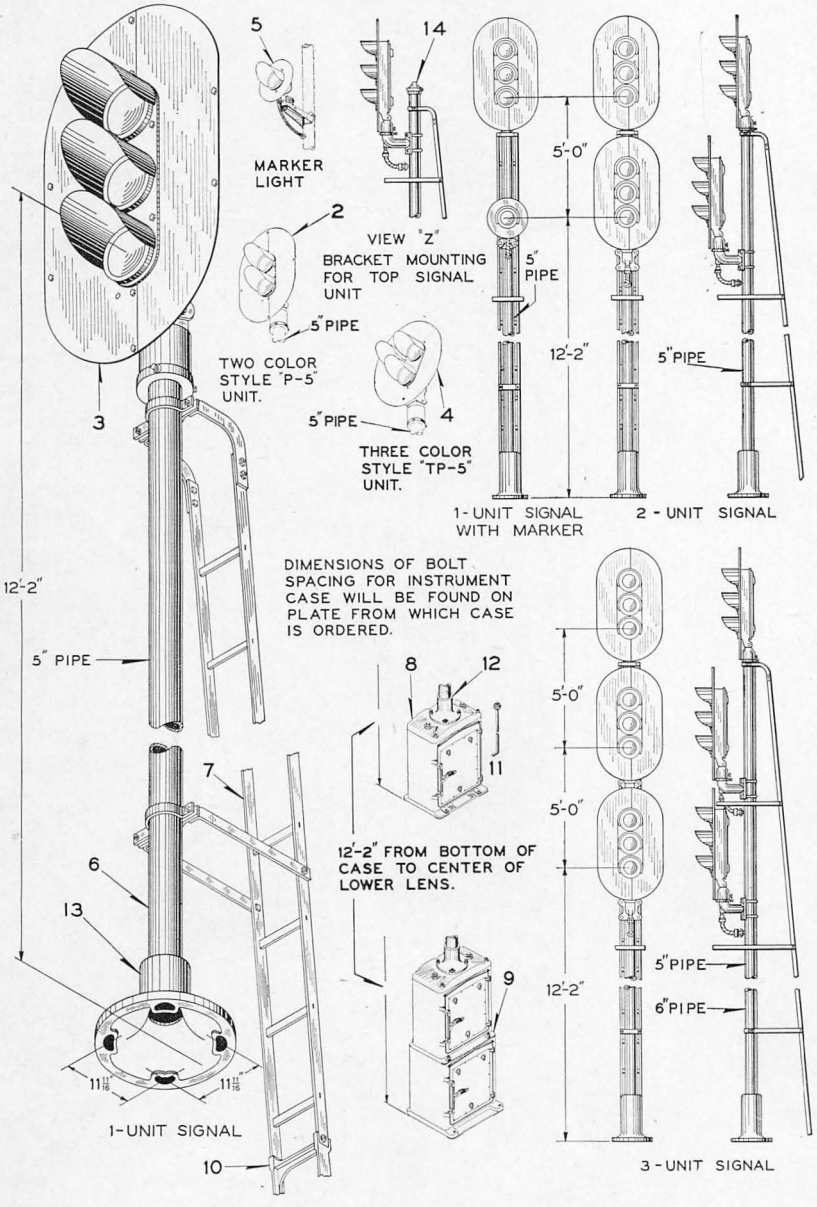

Styles "P-5" and "TP-5" Color Light Ground Signals

Styles "P-5" and "TP-5" Color Light Ground Signals Complete

When ordering a complete signal refer to paragraphs 40 to 43 of Plate B-2500.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Parts	Piece	Ref.	Alternatives	Remarks	Detail Plates or Drawing Reference
Signal Units		**2**	2-Color Style "P-5"		B-2517
		3	3-Color Style "P-5"		
		4	3-Color Style "TP-5" Triangular		
Marker Light		**5**	1-Color Style "R-2"		B-2514
		5a	1-Color Style "D" C.I. Semaphore Lamp		
		5b	1-Color Style "HC-33"		
Pipe Post with Base Casting		* **6**	For 1-Unit Signal		
		* **6a**	For 2-Unit Signal		
		* **6b**	For 3-Unit Signal		
Ladder		* **7**	For 1-Unit Signal		B-2586
		* **7a**	For 2-Unit Signal		
		* **7b**	For 3-Unit Signal		
Instrument Case		**8**	Single Case		L-1135 to L-1160
		9	Double Case		
Ladder Foundation Pier	**181370**	**10**		With Bolts for attaching Ladder	B-2586
Foundation Bolts	**10276**	**11**		1"x3'-0" with Hex. Nut and Washer	7913-54
Base		**12**	For Instrument Case Mounting		B-2580 and B-2581
		13	For Ground Mounting		
Pinnacle	**150818**	**14**		For 5" Pipe or Casing	B-8121-17
Lamp Bulbs		**15**		Not shown	B-2571

*When separate Pipe Posts and Ladders are ordered, orders should be accompanied with the same information as required when ordering complete signals in order that Posts and Ladders with correct drilling and length can be supplied.

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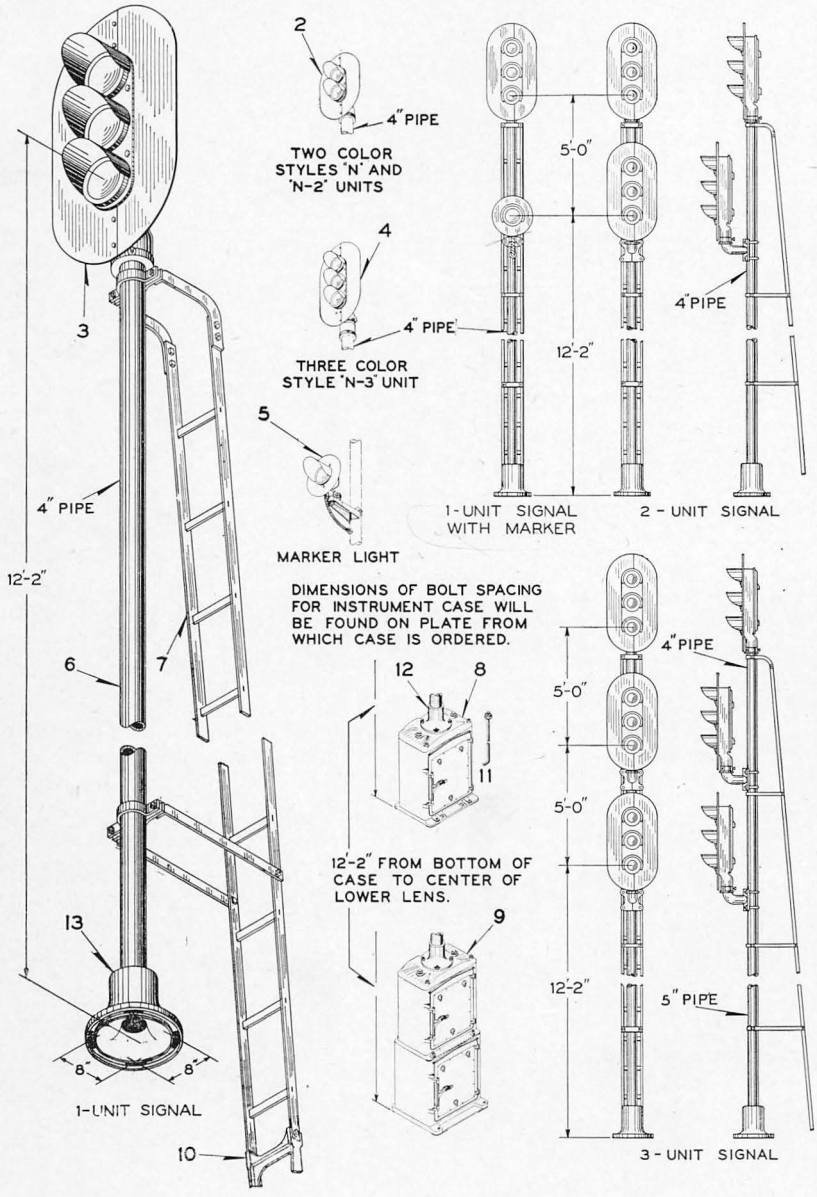

Styles "N", "N-2" and "N-3" Color Light Ground Signals

Styles "N", "N-2" and "N-3" Color Light Ground Signals Complete

When ordering a complete signal refer to paragraphs 40 to 43 of Plate B-2500.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Parts	Piece	Ref.	Alternatives	Remarks	Detail Plates or Drawing Reference
Signal Units		**2**	2-Color Style "N"		B-2517
		2a	2-Color Style "N-2"		
		2b	2-Color Style "N-3"		
		3	3-Color Style "N"		
		3a	3-Color Style "N-2"		
		4	3-Color Style "N-3"		
Marker Light		**5**	1-Color Style "R-2"		B-2514
		5a	1-Color Style "D" C.I. Semaphore Lamp		
		5b	1-Color Style "HC-33"		
Pipe Post with Base Casting		* **6**	For 1-Unit Signal		
		* **6a**	For 2-Unit Signal		
		* **6b**	For 3-Unit Signal		
Ladder		* **7**	For 1-Unit Signal		B-2586
		* **7a**	For 2-Unit Signal		
		* **7b**	For 3-Unit Signal		
Instrument Case		**8**	Single Case		L-1135 to L-1160
		9	Double Case		
Ladder Foundation Pier	**181370**	**10**		With Bolts for attaching Ladder	B-2586

*When separate Pipe Posts and Ladders are ordered, orders should be accompanied with the same information as required when ordering complete signals in order that Posts and Ladders with correct drilling and length can be supplied.

Styles "N", "N-2" and "N-3" Color Light Ground Signals Complete

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Parts	Piece	Ref.	Alternatives	Remarks	Detail Plates or Drawing Reference
Foundation Bolts	**10275**	**11**	¾″x2′-6″ with Hex. Nut and Washer	For Bases for 4″ Pipe	7913-41
	10276	**11a**	1″x3′-0″ with Hex. Nut and Washer	For Instrument Cases and Bases for 5″ Pipe	7913-54
Base		**12**	For Instrument Case Mounting		B-2580 and B-2581
		13	For Ground Mounting		
Lamp Bulbs		**14**		Not Shown	B-2571

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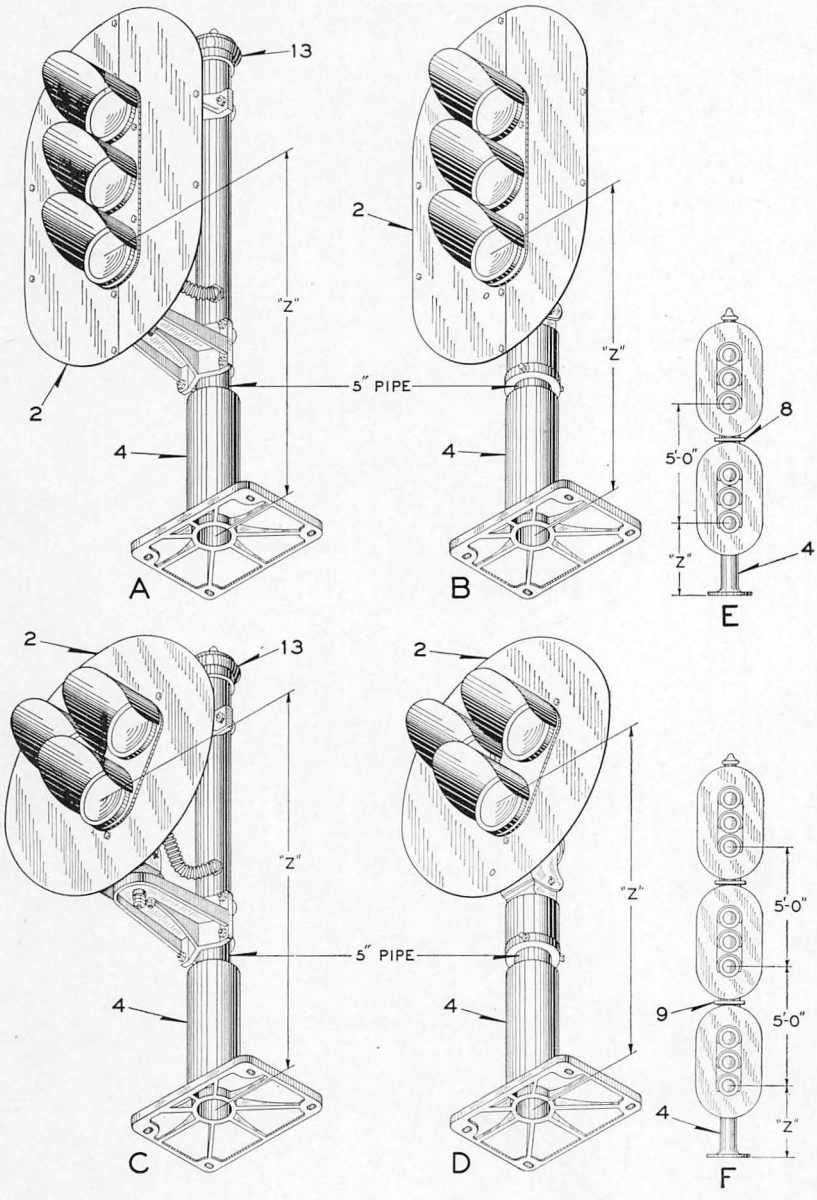
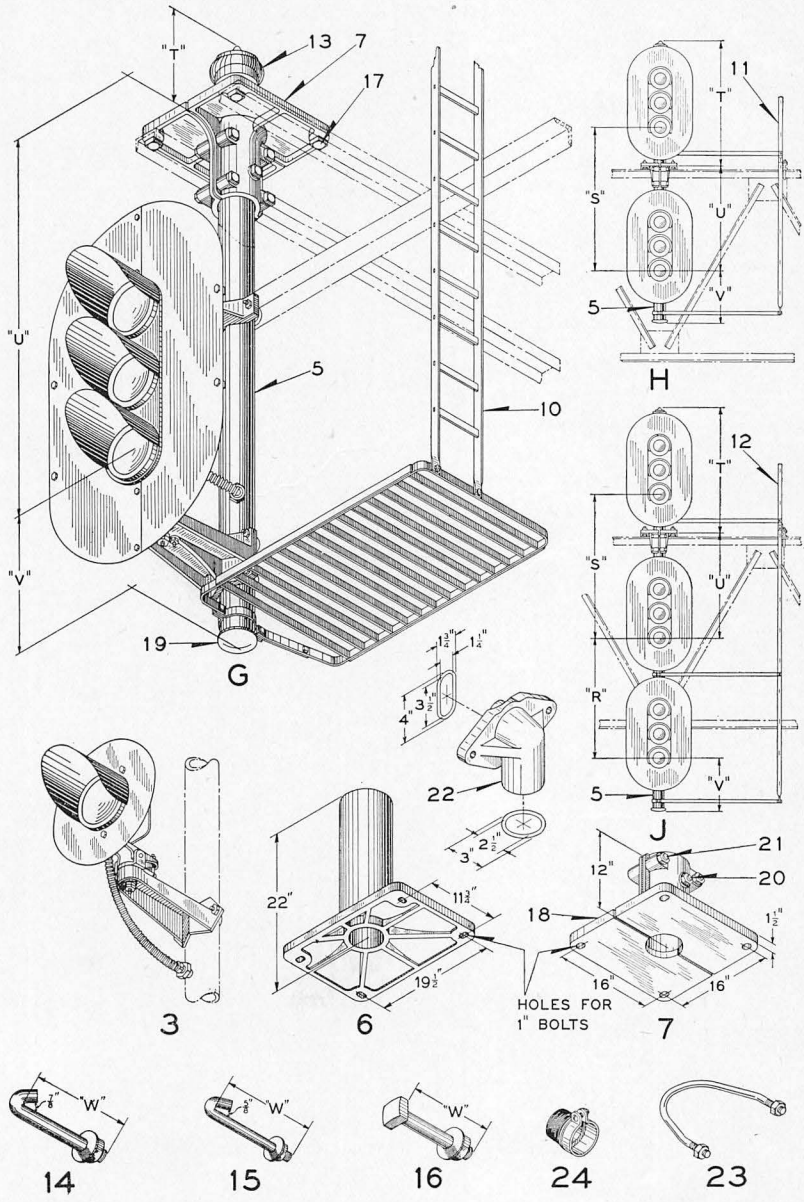


Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting



Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

10-40

Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

For general information and ordering instructions see Plate B-2500.
If Mounting Fittings are desired, orders should be accompanied with dimensioned plan or sketch of Bridge or Main Bracket Post.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

1-Unit Style....., ... Color Light Signal Ref....., Plate B-2509, with Lamp Bulbs Ref....., Plate B-2571, "Z" Dimension..... and Pipe Post Ref....., (Orders should Specify "Z" Dimension, Lamp Bulbs Desired by Referring to Plate B-2571 and Pipe Post Desired by Referring to Ref. 4 or 4a) (without Mounting Bolts and Ladder) Dwg. B-10325.

Piece	Ref.	Style	Unit Ref..... Plate B-2517	Approx. Minimum "Z" Dimension
	A	"R-2" 3-Color	B	3'- 0"
	Aa	"R-2" 2-Color	A	3'- 0"
	B	"P-5" 3-Color	E	3'- 6"
	Ba	"P-5" 2-Color	D	3'- 6"
	C	"TR-2" 3-Color	C	3'- 4"
	D	"TP-5" 3-Color	F	3'-10"

2- Unit Style....., ... Color Light Signal Ref....., Plate B-2509 with Lamp Bulbs Ref....., Plate B-2571, "Z" Dimension..... Pipe Post Ref..... and Ladder Ref. 8 (Orders should Specify "Z" Dimension, Lamp Bulbs Desired by Referring to Plate B-2571 and Pipe Post Desired by Referring to Ref. 4 or 4a) (without Mounting Bolts) Dwg. B-10325.

Piece	Ref.	Style	Unit Ref..... Plate B-2517		Approx. Minimum "Z" Dimension
			Upper Unit	Lower Unit	
	E	"R-2" 3-Color	B	B	3'-0"
	Ea	"R-2" 2-Color	A	A	3'-0"
	Eb	"P-5" 3-Color	E	Eb	4'-2"
	Ec	"P-5" 2-Color	D	Db	4'-2"
	Ed	"TR-2" 3-Color	C	C	3'-4"
	Ee	"TP-5" 3-Color	F	Fa	4'-6"

Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

3-Unit Style....., ... Color Light Signal Ref....., Plate B-2509 with Lamp Bulbs Ref....., Plate B-2571, "Z" Dimension....., Pipe Post Ref..... and Ladder Ref. 9 (Orders should Specify "Z" Dimension, Lamp Bulbs desired by Referring to Plate B-2571 and Pipe Post Desired by Referring to Ref. 4 or 4a) (without Mounting Bolts) Dwg. B-10325.

Piece	Ref.	Style	Unit Ref....., Plate B-2517			Approx. Minimum "Z" Dimension
			Top Unit	Center Unit	Bottom Unit	
	F	"R-2" 3-Color	B	B	B	3′-0″
	Fa	"R-2" 2-Color	A	A	A	3′-0″
	Fb	"P-5" 3-Color	E	Eb	Eb	4′-2″
	Fc	"P-5" 2-Color	D	Db	Db	4′-2″
	Fd	"TR-2" 3-Color	C	C	C	3′-4″
	Fe	"TP-5" 3-Color	F	Fa	Fa	4′-6″

1-Unit Style....., ... Color Light Signal Ref....., Plate B-2509 with Ladder Ref. 10, Pipe Post Ref. 5, Lamp Bulbs Ref....., Plate B-2571, "T" Dim....., "U" Dim....., "V" Dim....., and Mounting Bolts Ref. 17, ... Long. For Bridge Mounting. (Orders should Specify "T", "U", "V" Dimensions, Length of Mounting Bolts and Lamp Bulbs Desired by Referring to Plate B-2571) Dwg. B-10325.

Piece	Ref.	Style	Unit Ref..... Plate B-2517	Approx. Minimum "U" Dimension
	G	"R-2" 3-Color	B	3′-11″
	Ga	"R-2" 2-Color	A	2′-11″
	Gb	"TR-2" 3-Color	C	2′-11″

Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

2-Unit Style....., ... Color Light Signal Ref.....,Plate B-2509 with Ladder Ref. 11, Pipe Post Ref. 5, Lamp Bulbs Ref....., Plate B-2571, "S" Dim....., "T" Dim....., "U" Dim....., "V" Dim....., and Mounting Bolts Ref. 17, ... Long. For Bridge Mounting. (Orders should Specify "S", "T", "U", "V" Dimensions, Length of Mounting Bolts and Lamp Bulbs Desired by Referring to Plate B-2571) Dwg. B-10325.

Piece	Ref.	Style	Unit Ref..... Plate B-2517		Approx. Minimum "U" Dimension
			Upper Unit	Lower Unit	
	H	"R-2" 3-Color	B	B	3′-11″
	Ha	"R-2" 2-Color	A	A	2′-11″
	Hb	"TR-2" 3-Color	C	C	2′-11″

3-Unit Style....., ... Color Light Signal Ref....., Plate B-2509 with Ladder Ref. 12, Pipe Post Ref. 5, Lamp Bulbs Ref....., Plate B-2571, "R" Dim....., "S" Dim....., "T" Dim....., "U" Dim....., "V" Dim....., and Mounting Bolts Ref. 17, ... Long. For Bridge Mounting. (Orders should Specify "R", "S", "T", "U", "V" Dimensions, Length of Mounting Bolts and Lamp Bulbs Desired by Referring to Plate B-2571) Dwg. B-10325.

Piece	Ref.	Style	Unit Ref..... Plate B-2517			Approx. Minimum"U" Dimension
			Upper Un.	Center Un.	Bottom Unit	
	J	"R-2" 3-Color	B	B	B	3′-11″
	Ja	"R-2" 2-Color	A	A	A	2′-11″
	Jb	"TR-2" 3-Color	C	C	C	2′-11″

Piece	Ref.	Description	Drawing Reference
	2	**Style....., ... Color Light Signal Unit** (When ordering "R-2", "P-5", "TR-2" or "TP-5" Two or Three-Color Unit, refer to Plate B-2517).....	B–10325–
	3	**One-Color Marker Light** (When ordering refer to Plate B-2514).	

Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	4	**Pipe Post,** 5″ Pipe with Base Casting Ref. 6 (Orders should specify Signal with which Pipe Post is to be used by referring to Refs. A to Fe)	B–9893–
	4a	**Pipe Post,** 5″ Pipe with Base Ref. 7 (Orders should specify Signal with which Pipe Post is to be used by referring to Refs. A to Fe)	B–9893–
	5	**Pipe Post,** 5″ Pipe with Clamp Socket Ref. 7 and Cap Ref. 19 (Orders should specify Signal with which Pipe Post is to be used by referring to Refs. G to Jb)	B–9893–
61092	6	**Base Casting** (A.A.R.) for 5″ Pipe (For Refs. A to Fe)	C–7583–1
170595	7	**Clamp Socket Complete** for 5″ Pipe (For Refs. A to Jb)	C–6425–3
	8	**Ladder** with Platform for Two-Unit Bridge Signals Refs. E to Ee (When ordering specify "Z" dimension of Signal so proper ladder can be furnished) (For details refer to Plate B-2586)	B–10313–
	9	**Ladder** with Platforms for Three-Unit Bridge Signals Refs. F to Fe (When ordering specify "Z" dimension of Signal so proper ladder can be furnished) (For details refer to Plate B-2586)	B–10313–
	10	**Ladder** with Platform for One-Unit Bridge Signals Refs. G to Gb (When ordering specify "U" dimension of Signal so proper ladder can be furnished) (For details refer to Plate B-2586)	B–10313–
	11	**Ladder** with Platform and Stay for Two-Unit Bridge Signals Refs. H to Hb (When ordering specify "U" dimension of Signal so proper ladder can be furnished) (For details refer to Plate B-2586)	B–10313–
	12	**Ladder** with Platforms and Stay for Three-Unit Bridge Signals Refs. J to Jb (When ordering specify "R" and "U" dimensions of Signal so proper ladder can be furnished) (For details refer to Plate B-2586)	B–10313–
150818	13	**Pinnacle** with Bolt and Nut for 5″ Pipe or Casing	B–8121–17

Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

(**Continued**)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	14	**Hook Bolt,** 1″ with Hex. Nut (Cad. Pl.) and 1″ Std. Plate Washer (Cad. Pl.) (Orders should specify "W" dimension) For attaching Color Light Signal to Signal Bridge	7913–369
	14a	**Hook Bolt,** 1″ with Hex. Nut (Cad. Pl.) and 1″ Pl. S. Lock Washer (¼″x¼″) (Cad. Pl.) (Orders should specify "W" dimension) For attaching Color Light Signal to Signal Bridge	7913–369
	15	**Hook Bolt,** ¾″ with Hex. Nut (Cad. Pl.) and ¾″ Std. Plate Washer (Cad. Pl.) (Orders should specify "W" dimension) For attaching Color Light Signal to Signal Bridge	7913–319
	15a	**Hook Bolt,** ¾″ with Hex. Nut (Cad. Pl.) and ¾″ Pl. S. Lock Washer ($\frac{3}{16}$″x$\frac{3}{16}$″) (Cad. Pl.) (Orders should specify "W" dimension) For attaching Color Light Signal to Signal Bridge	7913–319
	16	**Bolt,** 1″ Sq. Hd. (Cad. Pl.) with Hex. Nut (Cad. Pl.) and 1″ Std. Plate Washer (Cad. Pl.) (Orders should specify "W" dimension) For attaching Color Light Signal to Signal Bridge.	
	17	**Bolt,** 1″ Sq. Hd. (Cad. Pl.) with Hex. Nut (Cad. Pl.) and 1″ Pl. S. Lock Washer ($\frac{13}{32}$″x$\frac{9}{32}$″) (Cad. Pl.) (Orders should specify length desired).	
60096	**18**	**Half Socket** for Ref. 7	C–6425–3
	19	**Cap** with three ½″-13x¾″ Hex. Hd. S. Tap Bolts (Cad. Pl.)	B–8121–18
152130	**19a**	**Cap Only**	B–8121–18
	20	**Bolt,** ⅝″x8¾″ Sq. Hd. S. with ⅝″ Hex. Nut for Ref. 7.	
	21	**Bolt,** ¾″x7″ Sq. Hd. S. with ¾″ Hex. Nut for Ref. 7.	
69514	**22**	**Cable Outlet** with Gasket Ref. 22a (For bringing external wires into Pole)	B–10342–31
69530	**22a**	**Gasket** for Ref. 22	8078–1340

Styles "R-2", "P-5", "TR-2" and "TP-5" Color Light Signals for Bridge and Bracket Post Mounting

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
69518	**23**	**"U" Bolt,** ½″ with Hex. Nuts (Cad. Pl.) for attaching Ref. 22 to 5″ Pipe.....	8782–151
74551	**24**	**Panel Box Connector,** 2″ M. I. for bringing 2″ S. S. Flexible Conduit into Pole.....	B–10342–17
	24a	**Panel Box Connector,** 1¼″ M. I. for bringing 1¼″ S. S. Flexible Conduit into Pole.....	B–10342–

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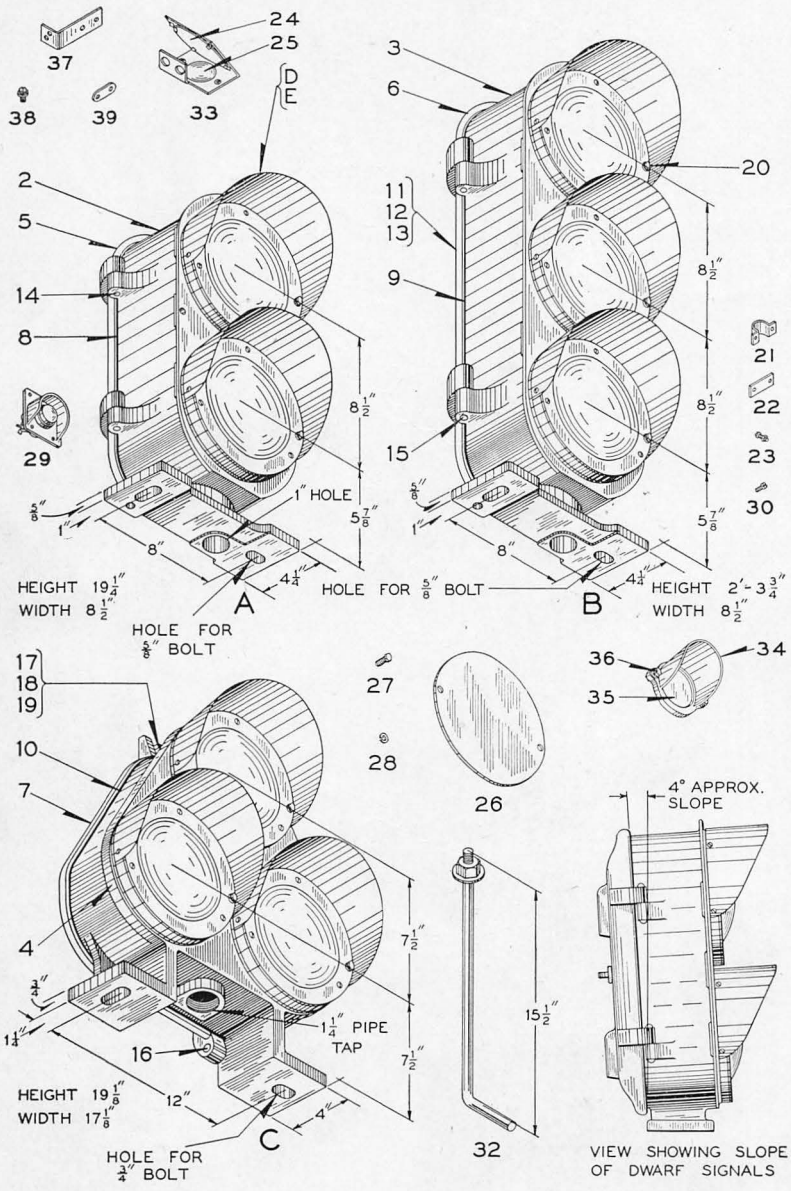

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

Orders should specify Lamp Bulb desired by referring to Plate B-2571. If Lenses of different colors than those listed below or if Pushbutton Ref. 29 is desired, orders should so state.

Signal Cases of the Dwarf Signals shown on this Plate cannot be equipped with Transformers. If Transformers are desired they must be mounted independently of the Signal. For Style "N-2" Color Light Dwarf Signal with Relay and Transformer compartment refer to Plate B-2566.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Two-Color Style..... Dwarf Light Signal Ref....., Plate B-2512 with Lamp Bulbs and Top Light Yellow and Bottom Light Red, for Mounting on Concrete Foundation (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571) (Without Foundation Bolts) Dwg. B-10325-46.

Piece	Ref.	Style	Lamp Units	Backlight	Remarks
	A	"N"	Ref. D	Without	
	Aa	"N"	Ref. Db	Without	
	Ab	"N"	Ref. Da	Without	
	Ac	"N"	Ref. Dc	Without	
	Ad	"N"	Ref. D	With (On Bottom Lamp Unit)	
	Ae	"N"	Ref. Db	With (On Bottom Lamp Unit)	
	Af	"N"	Ref. Da	With (On Bottom Lamp Unit)	
	Ag	"N"	Ref. Dc	With (On Bottom Lamp Unit)	
	Ah	"N-2"	Ref. E	Without	
	Aj	"N-2"	Ref. Ea	Without	
	Ak	"N-2"	Ref. E	With (On Bottom Lamp Unit)	
	Am	"N-2"	Ref. Ea	With (On Bottom Lamp Unit)	

Three-Color Style..... Dwarf Light Signal Ref....., Plate B-2512 with Lamp Bulbs and Top Light Green, Middle Light Yellow and Bottom Light Red, for Mounting on Concrete Foundation (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571) (Without Foundation Bolts) Dwg. B-10325-46.

Piece	Ref.	Style	Lamp Units	Backlight	Remarks
	B	"N"	Ref. D	Without	
	Ba	"N"	Ref. Db	Without	
	Bb	"N"	Ref. Da	Without	

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Style	Lamp Units	Backlight	Remarks
	Bc	"N"	Ref. Dc	Without	
	Bd	"N"	Ref. D	With (On Bottom Lamp Unit)	
	Be	"N"	Ref. Db	With (On Bottom Lamp Unit)	
	Bf	"N"	Ref. Da	With (On Bottom Lamp Unit)	
	Bg	"N"	Ref. Dc	With (On Bottom Lamp Unit)	
	Bh	"N-2"	Ref. E	Without	
	Bj	"N-2"	Ref. Ea	Without	
	Bk	"N-2"	Ref. E	With (On Bottom Lamp Unit)	
	Bm	"N-2"	Ref. Ea	With (On Bottom Lamp Unit)	

Three-Color Style..... Dwarf Light Signal Ref....., Plate B-2512 with Lamp Bulbs and Top Light Red, L.H. Bottom Light Yellow and R.H. Bottom Light Green, for Mounting on Concrete Foundation (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571) (Without Foundation Bolts) Dwg. B-10325-92.

Piece	Ref.	Style	Lamp Units	Remarks
	C	"TN"	Ref. D	
	Ca	"TN"	Ref. Da	
	Cb	"TN"	Ref. Db	
	Cc	"TN"	Ref. Dc	
	Cd	"TN-2"	Ref. E	
	Ce	"TN-2"	Ref. Ea	

Piece	Ref.	Description	Drawing Reference
	***D**	**Lamp Unit** with Lamp Grip Shell Receptacle (without Lamp Bulb) for Styles "N" and "TN" Dwarf Signals.....	C–8901–17

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	*Da	**Lamp Unit** with Marine Shell Receptacle (without Lamp Bulb) for Styles "N" and "TN" Dwarf Signals	C–8901–17
	*Db	**Lamp Unit** with Lamp Grip Shell Receptacle and Light Deflecting Unit (without Lamp Bulb) for Styles "N" and "TN" Dwarf Signals	C–8901–17
	*Dc	**Lamp Unit** with Marine Shell Receptacle and Light Deflecting Unit (without Lamp Bulb) for Styles "N" and "TN" Dwarf Signals	C–8901–17
	*E	**Lamp Unit** with Lamp Receptacle (without Lamp Bulb) for Styles "N-2" and "TN-2" Dwarf Signals	C–8901–36
	*Ea	**Lamp Unit** with Lamp Receptacle and Light Deflecting Unit (without Lamp Bulb) for Styles "N-2" and "TN-2" Dwarf Signals	C–8901–36
		*When ordering assemblies or details refer to Plate B-2532.	

Case for Two-Color Style..... Dwarf Light Signal.

Piece	Ref.	Style	Remarks	Drawing Reference
116672	**2**	"N"		C–8901–37
126184	**2a**	"N"	Arranged for Backlight on Bottom Light	C–8901–37
116724	**2b**	"N-2"		C–8901–37
128181	**2c**	"N-2"	Arranged for Backlight on Bottom Light	C–8901–45

Case and Door for Two-Color Style..... Dwarf Light Signal.

Piece	Ref.	Style	Door	Case	Remarks	Drawing Reference
116725	**2d**	"N"	Ref. 5	Ref. 2		C–8900–13
126185	**2e**	"N"	Ref. 5a	Ref. 2a	Arranged for Backlight on Bottom Light	C–8900–24

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Style	Door	Case	Remarks	Drawing Reference
116673	**2f**	"N-2"	Ref. 5	Ref. 2b		C–8900–12
128182	**2g**	"N-2"	Ref. 5a	Ref. 2c	Arranged for Backlight on Bottom Light	C–8900–27

Case for Three-Color Style..... Dwarf Light Signal.

Piece	Ref.	Style	Remarks	Drawing Reference
99690	**3**	"N"		C–8901–27
124135	**3a**	"N"	Arranged for Backlight on Bottom Light	C–8901–27
120745	**3b**	"N-2"		C–8901–27
	3c	"N-2"	Arranged for Backlight on Bottom Light	C–8901–
122597	**3d**	"N-2"	Arranged for Pushbutton on Top Light	C–8901–27

Case and Door for Three-Color Style..... Dwarf Light Signals.

Piece	Ref.	Style	Door	Case	Remarks	Drawing Reference
99691	**3e**	"N"	Ref. 6	Ref. 3		C–8900–5
124133	**3f**	"N"	Ref. 6a	Ref. 3a	Arranged for Backlight on Bottom Light	C–8900–22
120746	**3g**	"N-2"	Ref. 6	Ref. 3b		C–8900–18
	3h	"N-2"	Ref. 6a	Ref. 3c	Arranged for Backlight on Bottom Light	C–8900–
122598	**3j**	"N-2"	Ref. 6	Ref. 3d	Arranged for Pushbutton on Top Light	C–8900–18

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
123593	**4**	**Case** for Three-Color Style "TN-2" Dwarf Light Signal	C–9011–5
123594	**4a**	**Case and Cover,** for Three-Color Style "TN-2" Dwarf Light Signal	C–8900–20
136860	**4b**	**Case** for Three-Color Style "TN" Dwarf Light Signal	C–9011–5
136863	**4c**	**Case and Cover,** for Three-Color Style "TN" Dwarf Light Signal	C–8900–50
68248	**5**	**Door,** with Flax Packing, Staple and Ventilators for Two-Color Styles "N" and "N-2" Dwarf Light Signals	C–8901–19
126222	**5a**	**Door,** with Flax Packing, Staple and Ventilators, arranged for Backlight on Bottom Light for Two-Color Styles "N" and "N-2" Dwarf Light Signals	C–8901–42
68252	**6**	**Door,** with Flax Packing, Staple and Ventilators for Three-Color Styles "N" and "N-2" Dwarf Light Signals	C–8901–14
124131	**6a**	**Door,** with Flax Packing, Staple and Ventilators, arranged for Backlight on Bottom Light for Three-Color Styles "N" and "N-2" Dwarf Light Signals	C–8901–40
196642	**7**	**Cover,** with Flax Packing, Staple and Ventilators for Three-Color Styles "TN" and "TN-2" Dwarf Light Signals	C–9011–6
	8	**Flax Packing** ⅜″ Sq. 3′-5¼″ long for Ref. 5.	
	8a	**Flax Packing** ⅜″ Sq. 3′-6″ long for Ref. 5a.	
	9	**Flax Packing** ⅜″ Sq. 4′-10″ long for Refs. 6 and 6a.	
	10	**Flax Packing** ⅜″ Sq. 4′-2″ long for Ref. 7.	
21918	**11**	**Ventilator Screen Holder** for Refs. 5 to 7 inc	B–7318–5
21919	**12**	**Ventilator Screen Only** for Refs. 5 to 7 inc	B–7318–5
	13	**Machine Screw,** No. 10-30x¼″ Rd. Hd. S. (Cad. Pl.) for attaching Refs. 11 and 12 to Doors.	

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
5873	**14**	**Pin,** $\frac{3}{8}$″x2$\frac{5}{16}$″ for fastening Door to Case	B–10207–1
49634	**15**	**Pin,** $\frac{3}{8}$″x3$\frac{3}{8}$″ for fastening Door to Case	B–10207–1
47304	**16**	**Pin,** $\frac{3}{8}$″x2$\frac{1}{8}$″ for fastening Cover Ref. 7 to Case Ref. 4	B–10207–1
50126	**17**	**Eye Bolt** for Hasp	8034–64
37075	**18**	**Pin,** $\frac{3}{8}$″x1$\frac{7}{8}$″ for fastening Eye Bolt Ref. 17 to Lugs on Case	B–10207–1
72832	**19**	**Hasp, Complete**	8299–66
	20	**Tap Bolt,** $\frac{1}{4}$″x1$\frac{1}{4}$″ Hex. Hd. (Cad. Pl.) with plain Lock Washer Ref. 28 for attaching Lens Unit to Case.	
68109	**21**	**Wire Guide**	11893–65
68414	**22**	**Insulation**	8750–2047
	23	**Machine Screw,** No. 10-30x$\frac{5}{8}$″ Rd. Hd. Br. with Hex. Nut Ref. 23a.	
40058	**23a**	**Hex. Nut** for Ref. 23	8265–126
116129	**24**	**Reflector**	12523–1
77563	**25**	**Inner Backlight Lens**	B–8468–3
68070	**26**	**Sheet Steel Disc** for Blank Space	7436–114
	27	**Tap Bolt,** $\frac{1}{4}$″x$\frac{1}{2}$″ Hex. Hd. (Tin Pl.) with $\frac{1}{4}$″ Plain Lock Washer Ref. 28 for securing Ref. 26 to Lens Housing.	
	28	**Lock Washer,** $\frac{1}{4}$″ Plain S. ($\frac{1}{8}$″x$\frac{1}{16}$″) (Cad. Pl.) for Refs. 20 and 27.	
122582	**29**	**Push Button, Complete** as shown	B–9918–25
	30	**Machine Screw,** No. 8-36x$\frac{3}{8}$″ Fil. Hd. Br. for attaching Ref. 29 to Case.	
122617	**31**	**Insulation** used between Ref. 29 and Case (Not shown)	8078–1375

Styles "N", "N-2", "TN" and "TN-2" Color Light Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
31402	**32**	**Foundation Bolt,** $\frac{5}{8}$"x15$\frac{1}{2}$" with Hex. Nut (Cad. Pl.) and Std. Plate Washer (Cad. Pl.) for Refs. A to Bm inc	7913–175
46558	**32a**	**Foundation Bolt,** $\frac{3}{4}$"x10" with Hex. Nut (Cad. Pl.) and Std. Plate Washer (Cad. Pl.) for Refs. C to Ce inc	7913–236
124129	**33**	**Reflector Support,** with Lens and Reflector for Backlight	C–8901–39
126199	**33a**	**Reflector Support,** with Reflector (No Lens)	C–8901–39
124132	**34**	**Backlight Hood**	C–8901–41
116348	**35**	**Outer Backlight Lens**	8468–33
	36	**Tap Bolt,** $\frac{1}{4}$"-20x$\frac{3}{4}$" Hex. Hd. (Cad. Pl.) with Plain Lock Washer ($\frac{1}{8}$"x$\frac{1}{16}$") (Cad. Pl.) for Ref. 34.	
124127	**37**	**Bracket** for supporting Ref. 33	10914–38
	38	**Machine Screw,** No. 14-24x$\frac{3}{8}$" Fil. Hd. S. (Cad. Pl.) with plain Lock Washer ($\frac{1}{16}$"x$\frac{1}{16}$") (Cad. Pl.) for securing Ref. 33 to Case.	
	38a	**Machine Screw,** No. 14-24x$\frac{3}{8}$" Fil. Hd. S. (Cad. Pl.) for Ref. 37.	
116440	**39**	**Washer** for Ref. 38	11893–144

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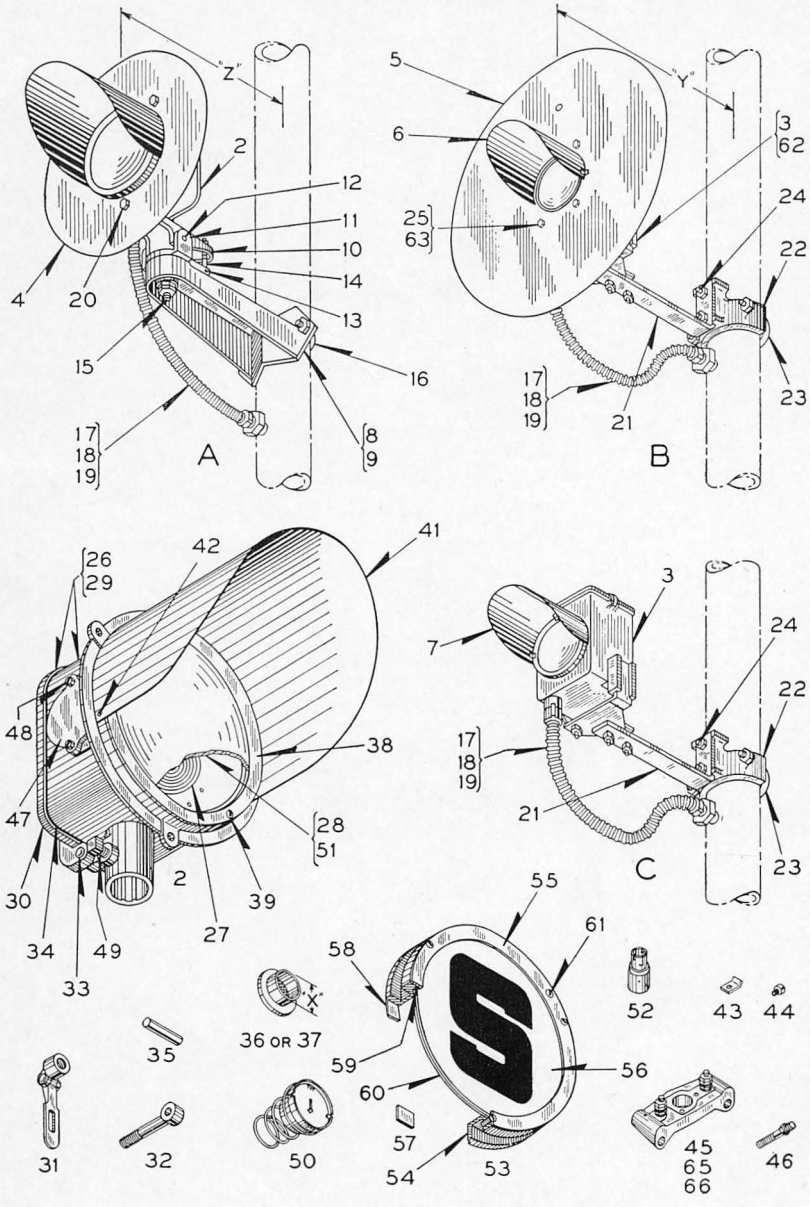

Marker Lights and One-Color Style "R-2" Light Signal Unit

Marker Lights and One-Color Style "R-2" Light Signal Unit

If Marker Lights or Signal Units are desired for attaching to different size pipe than listed, orders should so state.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**One-Color Style "R-2" Signal Unit** with 20″ diameter Background, Supporting Bracket and "U" Bolts for attaching to 5″ Pipe or Casing (Orders should specify Unit and Supporting Bracket desired by referring to Refs. 2 to 2d and 8 or 8a and Lamp Bulb desired by referring to Plate B-2571).....	B–10325–96
	Aa	**One-Color Style "R-2" Signal Unit** with 3′-4″ diameter Background, Supporting Bracket and "U" Bolts for attaching to 5″ Pipe or Casing (Orders should specify Unit and Supporting Bracket desired by referring to Refs. 2 to 2d and 8 or 8a and Lamp Bulb desired by referring to Plate B-2571).....	B–10325
	Ab	**One-Color Style "HC-33" Signal Unit** with 12″ diameter Background, Supporting Bracket and "U" Bolts for attaching to 5″ Pipe or Casing (Orders should specify Unit desired by referring to Plate B-2894 for Units and Ref. 8 or 8a of this Plate for Bracket and Lamp Bulb desired by referring to Plate B-2571).....	C–8965–33
	B	**Style "D" C.I. Semaphore Lamp** with 2′-2″ diameter Background, Supporting Bracket and "U" Bolts for attaching to 5″ Pipe or Casing (Orders should specify Unit desired by referring to Refs. 3 to 3b and Lamp Bulb desired by referring to Plate B-2571).....	B–10325
	C	**Style "D" C.I. Semaphore Lamp** with Hood, Supporting Bracket and "U" Bolts for attaching to 5″ Pipe or Casing (Without Background) (Orders should specify Unit desired by referring to Refs. 3c to 3e and Lamp Bulb desired by referring to Plate B-2571).....	B–10325

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

One-Color Style "R-2" Signal Unit with 8⅜" Converging Outer Lens and Lamp Socket Ref. 45 (Without Background, Supporting Bracket, "U" Bolts and Lamp Bulb) (If Assembly with Letters Refs. 53 to 53j, Spreadlight Lens Ref. 28a or Adapter Ref. 52 for S-11 Lamp Bulb are desired orders should so state).

Piece	Ref.	Inner Lens	Remarks	Drawing Reference
133867	**2**	Red		C–8965–18
166462	**2a**	Yellow		C–8965–18
	2b	Purple		C–8965–18
	2c	Green		C–8965–18
	2d	Lunar White		C–8965–18

Style "D" C.I. Semaphore Lamp With 5⅜" Roundel, Lamp Socket for Single Contact Bayonet Base Lamp and Case Drilled for Background Ref. 5 (Without Background and Hood, Lamp Bracket, "U" Bolts and Lamp Bulb) (Refer to Ref. 62 of this Plate for Case and to Plate B-951 for all other Details) (If other Lamp Socket is desired orders should so state by referring to Plate B-951).

Piece	Ref.	Roundel	Remarks	Drawing Reference
	3	40° Deflecting	Orders should specify color desired	C–8965–44
	3a	20° Deflecting	Orders should specify color desired	C–8965–44
	3b	Convex	Orders should specify color desired	C–8965–44

Style "D" C.I. Semaphore Lamp with 5⅜" Roundel, Lamp Socket for Single Contact Bayonet Base Lamp and Case Not Drilled for Background (Without Hood, Lamp Bracket, "U" Bolts and Lamp Bulb) (Refer to Plate B-951 for Details).

Piece	Ref.	Roundel	Remarks	Drawing Reference
	3c	40° Deflecting	Orders should state color desired	B–9224–69
	3d	20° Deflecting	Orders should state color desired	B–9224–69
	3e	Convex	Orders should state color desired	B–9224–69

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
124376	**4**	**Background,** 20″ Diameter for Ref. A	C–8964–23
145225	**4a**	**Background,** 3′-4″ Diameter for Ref. Aa	C–8964–52
161338	**4b**	**Background,** 2′-2″ Diameter	C–8964–23
167644	**5**	**Background,** 2′-2″ Diameter, with Hood Ref. 6 for Ref. B	C–8964–79
167497	**5a**	**Disc** for covering Sighting Hole, for Ref. 5	10933–52
54936	**5b**	**Rivet** for attaching Ref. 5a to Ref. 5	10301–50
167642	**6**	**Hood** for Ref. 5	C–8901–31
	6a	**Rivet,** $\frac{1}{8}$″x$\frac{1}{4}$″ Rd. Hd. I. for attaching Hood Ref. 6 to Background Ref. 5.	
194722	**7**	**Hood** for Ref. C	C–8964–5
148526	**8**	**Supporting Bracket Complete** for 4″, 5″ and 6″ Pipe ("Z" dim. approximately 20$\frac{3}{4}$″)	C–8964–65
149919	**8a**	**Supporting Bracket Complete** for 4″, 5″ and 6″ Pipe ("Z" dim. approximately 14$\frac{3}{4}$″)	C–8964–65
148494	**9**	**Supporting Arm Only** for 5″ and 6″ Pipe, for Ref. 8	C–8964–64
149918	**9a**	**Supporting Arm Only** for 5″ and 6″ Pipe, for Ref. 8a	C–8964–69
125752	**10**	**Supporting Bracket**	C–8964–25
148525	**11**	**Adjusting Bracket**	C–8964–65
16458	**12**	**Pin,** $\frac{5}{8}$″x5$\frac{3}{4}$″ with two $\frac{3}{16}$″x1$\frac{1}{8}$″ S. Cotters (Cad. Pl.)	B–10216–1
24289	**13**	**Pin,** $\frac{1}{2}$″x2$\frac{3}{8}$″ with two $\frac{1}{8}$″x$\frac{3}{4}$″ S. Cotters (Cad. Pl.)	B–10215–1
125826	**14**	**Eye Bolt** with three $\frac{5}{8}$″-11 Hex. Nuts (Cad. Pl.) and two $\frac{5}{8}$″ Plate Washers (Cad. Pl.)	8034–66
81667	**15**	**Bolt,** 1″x5″ with two 1″ Hex. Jam Nuts (Cad. Pl.) Washer Ref. 15a and one $\frac{1}{4}$″x1$\frac{1}{2}$″ S. Cotter (Cad. Pl.)	8479–196

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
80821	**15a**	**Washer** for Ref. 15	7826–20
54865	**16**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 8 and 8a to 4" Pipe	8782–102
43931	**16a**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 8 and 8a to 5" Pipe or Casing	8782–66
44199	**16b**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 8 and 8a to 6" Pipe	8782–69
	17	**Conduit,** ¾" Galv. Single Strip Flexible (Orders should specify length desired).	
	18	**¾" M.I. Galv. Jake Straight Box Connector.**	
	19	**¾" M.I. Galv. Male and Female Union.**	
	20	**Tap Bolt,** ⅜"x1" Hex. Hd. (Cad. Pl.) with ⅜" Pl. S. Lock Washer ($\frac{11}{64}$"x$\frac{7}{64}$") (Cad. Pl.) and ⅜" Std. Hex. Nut (Cad. Pl.).	
117219	**21**	**Lamp Bracket Complete,** "Y" diam. 16¼" approximately for Refs. B and C	B–8069–245
113829	**21a**	**Lamp Bracket Complete,** "Y" diam. 21¾" approximately for Refs. B and C	B–8069–24
43130	**22**	**Clamp** for 4" Pipe for Refs. B and C	B–8812–53
56536	**22a**	**Clamp** for 5" Casing for Refs. B and C	B–8795–16
47841	**22b**	**Clamp** for 5" Pipe for Refs. B and C	B–6821–33
57529	**22c**	**Clamp** for 6" Pipe for Refs. B and C	B–9932–12
43021	**23**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) and ¾" Pl. S. Lock Washers ($\frac{3}{16}$"x$\frac{3}{16}$") (Cad. Pl.) for attaching Ref. 22 to 4" Pipe	8782–64
43128	**23a**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) and ¾" Pl. S. Lock Washers ($\frac{3}{16}$"x$\frac{3}{16}$") (Cad. Pl.) for attaching Refs. 22a and 22b to 5" Pipe or Casing	8782–63
43129	**23b**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) and ¾" Pl. S. Lock Washers ($\frac{3}{16}$"x$\frac{3}{16}$") (Cad. Pl.) for attaching Ref. 22c to 6" Pipe	8782–65

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	24	**Bolt,** $\frac{1}{2}$"x1$\frac{3}{4}$" Sq. Hd. (Cad. Pl.) with Hex. Nut (Cad. Pl.) and $\frac{1}{2}$" Pl. S. Lock Washer ($\frac{3}{16}$"x$\frac{3}{32}$") (Cad. Pl.) for attaching Lamp Bracket Ref. 21 to Clamp Ref. 22.	
	25	**Bolt,** $\frac{1}{4}$"x1$\frac{1}{2}$" Hex. Hd. S. (Cad. Pl.) with Hex. Nut (Cad. Pl.) and $\frac{1}{4}$" Pl. S. Lock Washer ($\frac{1}{16}$"x$\frac{1}{16}$") (Cad. Pl.).	
124390	**26**	**Case and Door** with Hasp and Ventilators	C–8965–17
71329	**27**	**Red Inside Lens,** 5$\frac{1}{2}$" Diameter	B–8276–23
68162	**27a**	**Yellow Inside Lens,** 5$\frac{1}{2}$" Diameter	B–8276–23
71331	**27b**	**Green Inside Lens,** 5$\frac{1}{2}$" Diameter	B–8276–23
133171	**27c**	**Lunar White Inside Lens,** 5$\frac{1}{2}$" Diameter	B–8276–23
71330	**27d**	**Clear Inside Lens,** 5$\frac{1}{2}$" Diameter	B–8276–23
116647	**27e**	**Purple Inside Lens,** 5$\frac{1}{2}$" Diameter	B–8276–23
71186	**28**	**Clear Outside Standard Lens,** 8$\frac{3}{8}$" Diameter	B–8276–22
135757	**28a**	**Clear Outside 30° Spreadlite Lens,** 8$\frac{3}{8}$" Diameter	B–8276–34
124373	**29**	**Case Only**	C–8964–21
	30	**Door** with Staple and Gasket for One-Color Style "R-2" Signal Unit	C–8964–22
72832	**31**	**Hasp Complete**	8299–66
89918	**32**	**Eye Bolt** for Hasp	8034–64
124391	**33**	**Rivet**	B–10206–1
124383	**34**	**Gasket**	8078–717
37075	**35**	**Pin,** $\frac{3}{8}$"x1$\frac{7}{8}$" for fastening Eye Bolt to Lugs on Case	B–10207–1
84244	**36**	**Ventilator** for Case ("X" diam. $\frac{3}{8}$")	7318–64
34340	**37**	**Ventilator** for Door ("X" diam. $\frac{9}{16}$")	C–7459–6

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
71187	**38**	**Lens Ring**	7436–106
	39	**Machine Screw,** No. 10-30x⅜" Rd. Hd. Br.	
	40	**Machine Screw,** No. 14-24x⅜" Rd. Hd. Br. (Used to plug hole when deflecting prism is not used) (Not shown).	
65898	**41**	**Hood**	C–8842–15
	42	**Machine Screw,** No. 10-30x¼" Rd. Hd. Br.	
124382	**43**	**Clip** for attaching Inside Lens to Case	11893–206
	44	**Machine Screw,** No. 10-30x¼" Fil. Hd. S. (Tin Pl.) for Ref. 43.	
123630	**45**	**Lamp Receptacle Complete** for Refs. A and Aa	12415–6
116518	**46**	**Stud** for Ref. 45	8114–594
125749	**47**	**Sidelight Cover**	C–8964–22
	48	**Machine Screw,** No. 10-30x⅝" Fil. Hd. Br.	
	49	**Set Screw,** ½"x1" Cup Point Iron.	
130694	**50**	**Deflecting Unit Complete** 25° Spread	C–8901–63
133504	**50a**	**Deflecting Unit Complete** 50° Spread	C–8901–63
131706	**51**	**Gasket** for Lens Ref. 28	8078–1367
146283	**52**	**Adapter** for S-11 Lamp Bulb	12415–10
135690	**53**	**Lens Assembly,** Lettered "M" (Black Letter on Clear Glass)	C–8901–71
137484	**53a**	**Lens Assembly,** Lettered "M" (Clear Letter on black painted glass)	C–8901–71
135691	**53b**	**Lens Assembly,** Lettered "S" (Black letter on clear glass)	C–8901–71
137485	**53c**	**Lens Assembly,** Lettered "S" (Clear letter on black painted glass)	C–8901–71

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
153183	**53d**	**Lens Assembly,** Lettered "T" (Black letter on clear glass)	C–8901–71
190518	**53e**	**Lens Assembly,** Lettered "T" (Clear letter on black painted glass)	C–8901–71
192533	**53f**	**Lens Assembly,** Lettered "E" (Clear letter on black painted glass)	C–8901–71
174704	**53g**	**Lens Assembly,** Lettered "O" (Black letter on clear glass)	C–8901–71
164841	**53h**	**Lens Assembly,** Lettered "X" (Black letter on clear glass)	C–8901–71
147937	**53j**	**Lens Assembly,** Lettered "Z" (Black letter on clear glass)	C–8901–71
135666	**54**	**Roundel Housing**	C–8901–72
90894	**55**	**Lens Ring**	7436–105
135669	**56**	**Roundel** (Frosted)	8468–44
76736	**57**	**Felt Gasket**	8078–1268
90893	**58**	**Cork Gasket**	8078–1318
	59	**Lamp Wick,** $\frac{1}{16}$"x$\frac{1}{2}$"x27$\frac{1}{2}$" Long.	
135676	**60**	**Roundel** (With Letter "M") for Ref. 53	8468–45
137426	**60a**	**Roundel** (With Letter "M") for Ref. 53a	8468–48
135668	**60b**	**Roundel** (With Letter "S") for Ref. 53b	8468–44
137427	**60c**	**Roundel** (With Letter "S") for Ref. 53c	8468–49
153182	**60d**	**Roundel** (With Letter "T") for Ref. 53d	8468–58
190388	**60e**	**Roundel** (With Letter "T") for Ref. 53e	8468–67
192532	**60f**	**Roundel** (With Letter "E") for Ref. 53f	8468–68
174705	**60g**	**Roundel** (With Letter "O") for Ref. 53g	8468–61

Marker Lights and One-Color Style "R-2" Light Signal Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
164840	**60h**	**Roundel** (With Letter "X") for Ref. 53h	8468–59
147936	**60j**	**Roundel** (With Letter "Z") for Ref. 53j	8468–57
	61	**Machine Screw,** No. 14-24x2¼" Rd. Hd. Br. for attaching Refs. 53 to 53j to Unit.	
167646	**62**	**Case,** drilled for application of Background Ref. 5 (For use with Refs. 11 and 14 of Plate B-951) for Refs. 3 to 3b	C–8123–19
188122	**62a**	**Case,** drilled for application of Background Ref. 5 (For use with Ref. 45 of this Plate) for Refs. 3 to 3b	C–8123–19
167652	**63**	**Separator** used between background and Case for Ref. B	8072–650
	64	**Lamp Bulb** (Not shown) (When ordering refer to Plate B-2571)	B–12409
123641	**65**	**Contact Spring** with Insulation for Ref. 45	8385–1300
141531	**66**	**Insulation** (For Repairs) for Ref. 45	8750–2251

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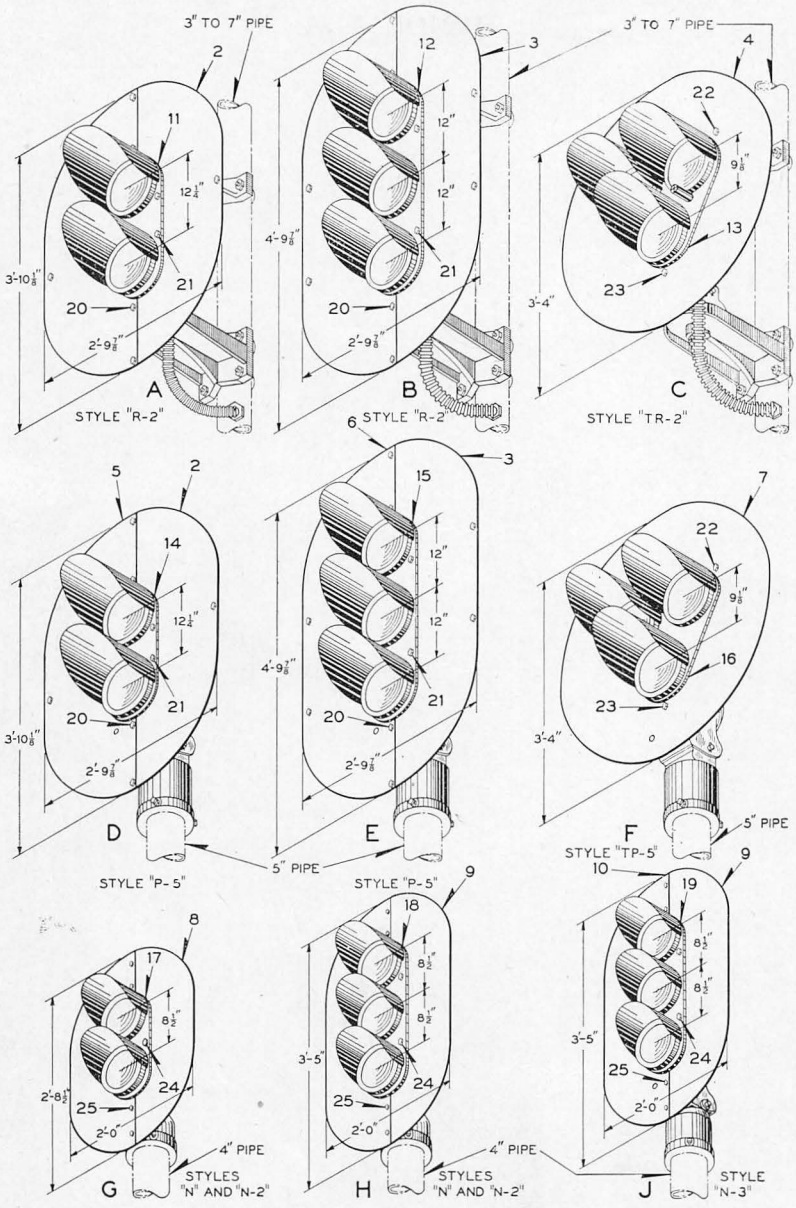

Two and Three-Color Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

Two and Three-Color Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

Where Signal Units having Transformers or "L-10" Relay are desired, orders should specify Voltage and Frequency for Transformers and Voltage and Wattage of lamps when "L-10" Relays are wanted.

Standard color combinations as listed in paragraphs 11 and 28 of Plate B-2500 will be furnished unless otherwise specified. When Signal Units are to be mounted on brackets instead of on top of post, order mounting brackets, U-bolts, conduit, etc. from Plate B-2575.

Backlights are furnished only when specified on orders.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "....", ...-Color Signal Unit Ref..... Plate B-2517 with Brackets, Background, Conduit and Fittings, Lamp Bulbs and U-Bolts for attaching Unit to 5″ Pipe (Orders should specify Lamp Bulbs desired by referring to Plate B-2571 and if U-Bolts for different size pipe are desired orders should so state).

Piece	Ref.	Style	Remarks	Drawing Reference
	A	2-Color "R-2"	Without individual Transformers	B–10325–18
	Aa	2-Color "R-2"	With individual Transformers	B–10325–18
	B	3-Color "R-2"	Without individual Transformers	B–10325–19
	Ba	3-Color "R-2"	With individual Transformers	B–10325–19
	C	3-Color "TR-2"	Without individual Transformers	B–10325–80

Style "....", ...-Color Signal Unit Ref..... Plate B-2517 with Background and Lamp Bulbs (Orders should specify Lamp Bulbs desired by referring to Plate B-2571).

Piece	Ref.	Style	Remarks	Drawing Reference
	D	2-Color "P-5"	Without individual Transformers	B–10325–311
	Da	2-Color "P-5"	With individual Transformers	B–10325–311
	E	3-Color "P-5"	Without individual Transformers	B–10325–306
	Ea	3-Color "P-5"	With individual Transformers	B–10325–306
	F	3-Color "TP-5"	Without individual Transformers	B–10325–305

Two and Three-Color Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "....", ...-Color Signal Unit Ref..... Plate B-2517 with Background, Lamp Bulbs, Bracket Ref. 14 as shown in View "X" of Plate B-2575 and U-Bolts for attaching Unit to 5″ Pipe (Orders should specify Lamp Bulbs desired by referring to Plate B-2571 and if U-Bolts for different size pipe are desired orders should so state).

Piece	Ref.	Style	Remarks	Drawing Reference
	Db	2-Color "P-5"	Without individual Transformers	B–10325–
	Dc	2-Color "P-5"	With individual Transformers	B–10325–
	Eb	3-Color "P-5"	Without individual Transformers	B–10325–
	Ec	3-Color "P-5"	With individual Transformers	B–10325–
	Fa	3-Color "TP-5"	Without individual Transformers	B–10325–

Style "....", ...-Color Signal Unit Ref..... Plate B-2517 with Background and Lamp Bulbs (Orders should specify Lamp Bulbs desired by referring to Plate B-2571).

Piece	Ref.	Style	Remarks	Drawing Reference
	G	2-Color "N"	Without individual Transformers	B–10325–28
	Ga	2-Color "N-2"	Without individual Transformers	B–10325–28
	H	3-Color "N"	Without individual Transformers	B–10325–25
	Ha	3-Color "N-2"	Without individual Transformers	B–10325–25
	J	3-Color "N-3"	Without individual Transformers	B–10325–
	Ja	2-Color "N-3"	Without individual Transformers	B–10325–

Two and Three-Color Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "....", ...-Color Signal Unit Ref..... Plate B-2517 with Background, Lamp Bulbs, Bracket Ref. 15 as shown in View "Y" of Plate B-2575 and U-Bolts for attaching Unit to 4″ Pipe (Orders should specify Lamp Bulbs desired by referring to Plate B-2571 and if U-Bolts for different size pipe are desired orders should so state).

Piece	Ref.	Style	Remarks	Drawing Reference
	Gb	2-Color "N"	Without individual Transformers	B–10325–
	Gc	2-Color "N-2"	Without individual Transformers	B–10325–
	Hb	3-Color "N"	Without individual Transformers	B–10325–
	Hc	3-Color "N-2"	Without individual Transformers	B–10325–
	Jb	3-Color "N-3"	Without individual Transformers	B–10325–
	Jc	2-Color "N-3"	Without individual Transformers	B–10325–

Piece	Ref.	Description	Drawing Reference
142935	**2**	**Background (Half)** Two required for Refs. A and Aa; One required for Refs. D, Da, Db and Dc.....	C–8901–82
144339	**3**	**Background (Half)** Two required for Refs. B and Ba; One required for Refs. E, Ea, Eb and Ec.....	C–8901–82
122467	**4**	**Circular Background** for Ref. C (3′-4″ Diam.).....	C–9011–4
166956	**5**	**Background (Half)** with Sighting hole; One required for Refs. D, Da, Db and Dc.....	C–8901–82
164636	**6**	**Background (Half)** with Sighting hole; One required for Refs. E, Ea, Eb and Ec.....	C–8901–82
164632	**7**	**Circular Background** for Refs. F and Fa (3′-4″ Diam.)	C–9011–4
68250	**8**	**Background (Half)** Two required for Refs. G, Ga, Gb and Gc; One required for Refs. Ja and Jc....	C–8901–20
68573	**9**	**Background (Half)** Two required for Refs. H, Ha, Hb and Hc; One required for Refs. J and Jb.....	C–8901–16

Two and Three-Color Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	10	**Background (Half)** with Sighting hole; one required for Refs. J and Jb	C–8901–16
	10a	**Background (Half)** with Sighting hole; one required for Refs. Ja and Jc	C–8901–16
	11	**Two-Color Style "R-2" Signal Unit** (When ordering refer to Plate B-2521 for Units with Backlight on Bottom Lamp Unit and without Backlight and to Plate B-2521½ for Units with Backlight on Top Lamp Unit	C–8900–
	12	**Three-Color Style "R-2" Signal Unit** (When ordering refer to Plate B-2521 for Units with Backlight on Bottom Lamp Unit and without Backlight and to Plate B-2521½ for Units with Backlight on Top Lamp Unit	C–8900–
	13	**Three-Color Style "TR-2" Signal Unit** (When ordering refer to Plate B-2524)	C–8900–
	14	**Two-Color Style "P-5" Signal Unit** (When ordering refer to Plate B-2522)	C–8900–
	15	**Three-Color Style "P-5" Signal Unit** (When ordering refer to Plate B-2522)	C–8900–
	16	**Three-Color Style "TP-5" Signal Unit** (When ordering refer to Plate B-2526)	C–8900–
	17	**Two-Color Style "N" Signal Unit** (When ordering refer to Plate B-2523)	C–8900–
	17a	**Two-Color Style "N-2" Signal Unit** (When ordering refer to Plate B-2523)	C–8900–
	18	**Three-Color Style "N" Signal Unit** (When ordering refer to Plate B-2523)	C–8900–
	18a	**Three-Color Style "N-2" Signal Unit** (When ordering refer to Plate B-2523)	C–8900–
	19	**Three-Color Style "N-3" Signal Unit** (When ordering refer to Plate B-2523)	C–8900–
	19a	**Two-Color Style "N-3" Signal Unit** (When ordering refer to Plate B-2523)	C–8900–

Two and Three-Color Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	20	**Bolt,** $\frac{3}{8}$"x$\frac{3}{4}$" Hex. Hd. (Cad. Pl.) with Nut Ref. 20a and Washer Ref. 20b (For bolting Background together).	
534	**20a**	**Hex. Nut**.....	8109–29
73021	**20b**	**Washer**.....	7826–34
	21	**Bolt,** $\frac{3}{8}$"x1$\frac{1}{4}$" Hex. Hd. S. (Cad. Pl.) with Nut Ref. 20a and $\frac{3}{8}$" Pl. S. Lock Washer ($\frac{5}{32}$"x$\frac{3}{32}$") (Cad. Pl.) (For attaching Background to Case).	
	22	**Bolt,** $\frac{3}{8}$"x1$\frac{1}{2}$" Hex. Hd. (Cad. Pl.) with Nut Ref. 20a and $\frac{3}{8}$" Pl. S. Lock Washer ($\frac{5}{32}$"x$\frac{3}{32}$") (Cad. Pl.) (For attaching Background to Case).	
	23	**Tap Bolt,** $\frac{3}{8}$"x1" Hex. Hd. (Cad. Pl.) with $\frac{3}{8}$" Pl. S. Lock Washer ($\frac{5}{32}$"x$\frac{3}{32}$") (Cad. Pl.) and Std. $\frac{3}{8}$" Plate Washer (Cad. Pl.) (For attaching Background to Case).	
	24	**Bolt,** $\frac{5}{16}$"x1$\frac{3}{8}$" Hex. Hd. (Cad. Pl.) with $\frac{5}{16}$" Pl. S. Lock Washer ($\frac{5}{32}$"x$\frac{3}{32}$") (Cad. Pl.) and $\frac{5}{16}$" Std. Hex. Nut (Cad. Pl.) (For attaching Background to Case).	
	25	**Bolt,** $\frac{1}{4}$"x$\frac{5}{8}$" Hex. Hd. (Cad. Pl.) with two $\frac{1}{4}$" Std. Washers (Cad. Pl.), $\frac{1}{4}$" Pl. S. Lock Washer ($\frac{1}{8}$"x$\frac{1}{16}$") (Cad. Pl.) and $\frac{1}{4}$" Std. Hex. Nut (Cad. Pl.) (For bolting Background together).	

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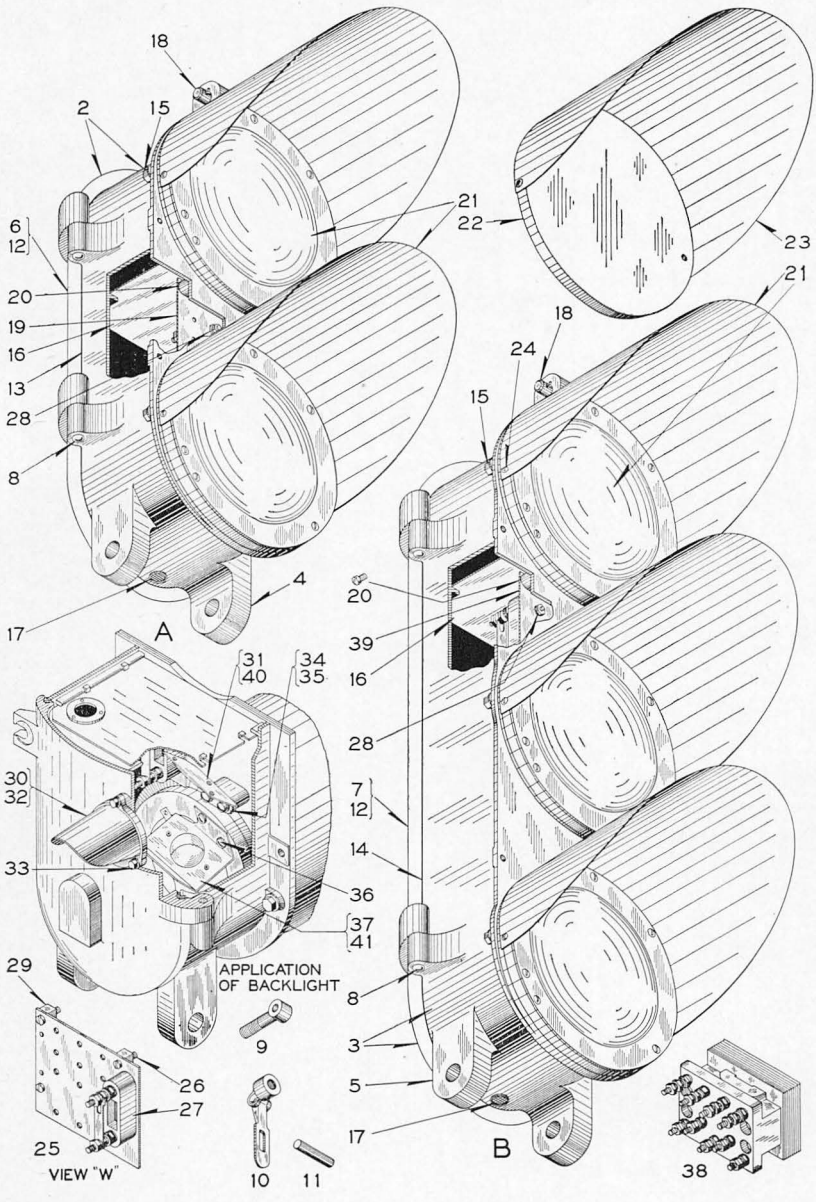

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

Unless otherwise specified, all Two-Color Signal Units will be furnished with Green Top and Red Bottom Lenses, and Three-Color Signal Units with Green Top, Yellow Middle and Red Bottom Lenses.

Orders should specify Lamp Bulbs desired by referring to Plate B-2571.

For Signal Units with Backgrounds refer to Plate B-2517.

For Signal Units with Backlight on Top Lamp Unit refer to Plate B-2521½.

When Signal Units having "L-10" Relays are desired, orders should so state and Specify Voltage and Wattage of Lamps.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Two-Color Style "R-2" Signal Unit Ref..... Plate B-2521 with Lamp Bulbs (Orders should specify Lamp Bulbs desired by referring to Plate B-2571).

Piece	Ref.	Top Light	Bottom Light	Backlight	Remarks	Drawing Reference
	A	Green	Red	Without	Without Individual Transformers	C–8900–21
	Aa	Green	Red	Without	Without Individual Transformers. With Terminal Board Ref. 25, per View "W"	C–8900–62
	Ab	Green	Red	With (On Bottom Lamp Unit)	Without Individual Transformers	C–8900–31
	Ac	Green	Red	Without	With Individual Transformers. (Orders should specify voltage and frequency)	C–8900–32

Three-Color Style "R-2" Signal Unit Ref..... Plate B-2521 with Lamp Bulbs (Orders Should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Middle Light	Bottom Light	Backlight	Remarks	Drawing Reference
	B	Green	Yellow	Red	Without	Without Individual Transformers	C–8900–11
	Ba	Green	Yellow	Red	Without	Without Individual Transformers. With Terminal Board Ref. 25, View "W"	C–8900–39

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Top Light	Middle Light	Bottom Light	Backlight	Remarks	Drawing Reference
	Bb	Green	Yellow	Red	Without	With Individual Transformers (Orders should specify voltage and frequency)	C–8900–15
	Bc	Green	Yellow	Red	With (On Bottom Lamp Unit)	Without Individual Transformers	C–8900–14
	Bd	Green	Yellow	Red	With (On Bottom Lamp Unit)	With Individual Transformers (Orders should specify voltage and frequency)	C–8900–23

Case and Door for Style "R-2" Signal Unit.

Piece	Ref.	Case	Door	Remarks	Drawing Reference
89978	**2**	Ref. 4	Ref. 6	For 2-Color Signal without Backlight	C–8900–2
130788	**2a**	Ref. 4	Ref. 6b	For 2-Color Signal with Backlight	C–8900–31
126170	**3**	Ref. 5	Ref. 7	For 3-Color Signal without Backlight	C–8900–11
129528	**3a**	Ref. 5	Ref. 7b	For 3-Color Signal with Backlight	C–8900–14

Piece	Ref.	Description	Drawing Reference
89969	**4**	**Case** for 2-Color Style "R-2" Signal.....	C–8901–10
116468	**5**	**Case** for 3-Color Style "R-2" Signal.....	C–8901–1

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
89925	**6**	**Door with Ventilators and Flax Packing** for 2-Color Unit without Backlight and 2-Color Unit with Backlight on Top Lamp Unit	C–8901–11
89924	**6a**	**Door Only** for Ref. 6	C–8901–11
130779	**6b**	**Door with Ventilators and Flax Packing** for 2-Color Unit with Backlight on Bottom Lamp Unit	C–8901–64
130778	**6c**	**Door Only** for Ref. 6b	C–8901–64
80778	**7**	**Door with Ventilators and Flax Packing** for 3-Color Unit without Backlight and 3-Color Unit with Backlight on Top Lamp Unit	C–8901–4
80724	**7a**	**Door Only** for Ref. 7	C–8901–4
116415	**7b**	**Door with Ventilators and Flax Packing** for 3-Color Unit with Backlight on Bottom Lamp Unit	C–8901–33
116414	**7c**	**Door Only** for Ref. 7b	C–8901–33
49634	**8**	**Pin,** $\frac{3}{8}$″x3$\frac{3}{8}$″ for fastening door to case	B–10207–1
50126	**9**	**Eye Bolt** for Hasp	8034–64
72832	**10**	**Hasp Complete**	8299–66
37075	**11**	**Pin,** $\frac{3}{8}$″x1$\frac{7}{8}$″ for attaching Eye Bolt to Case	B–10207–1
21919	**12**	**Ventilator Screen** for Doors	B–7318–5
21918	**12a**	**Ventilator Holder** for Doors	B–7318–5
	12b	**Machine Screw,** No. 10-30x$\frac{1}{4}$″ Rd. Hd. S. (Cad. Pl.) for fastening Refs. 12 and 12a to Door.	
	13	**Flax Packing,** $\frac{3}{8}$″x$\frac{3}{8}$″x4′-1$\frac{1}{2}$″ Long for Refs. 6 and 6b.	
	14	**Flax Packing,** $\frac{3}{8}$″x$\frac{3}{8}$″x6′-1″ Long for Refs. 7 and 7b.	
	15	**Tap Bolt,** $\frac{3}{8}$″-16x1$\frac{1}{8}$″ Hex. Hd. S. (Cad. Pl.) with $\frac{3}{8}$″ Pl. S. Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″) (Cad. Pl.) for attaching Lamp Unit to Case.	
80777	**16**	**Partition Complete**	C–8901–6

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
34340	**17**	**Ventilator**	C–7459–6
80726	**18**	**Pin,** $\frac{5}{8}$"x3$\frac{1}{4}$" with two $\frac{3}{16}$"x1$\frac{1}{8}$" S. Cotters (Cad. Pl.)	B–10216–1
129345	**19**	**Terminal Board** with three Terminal Blocks Ref. 27, for 2-Color Units without Backlights and 2-Color Units with Backlights on Top Lamp Unit	9968–684
149056	**19a**	**Terminal Board** with three 0.9-Ohm resistors Ref. 27a, for 2-Color Units without Backlight and 2-Color Units with Backlight on Top Lamp Unit	9968–846
130781	**19b**	**Terminal Board** with three Terminal Blocks Ref. 27, for 2-Color Units with Backlight on Bottom Lamp Unit	9968–700
164501	**19c**	**Terminal Board** with three 0.9-Ohm resistors Ref. 27a, for 2-Color Units with Backlight on bottom Lamp Unit	9968–972
129341	**19d**	**Terminal Board Only** for Refs. 19, 19a, 39 and 39a	9999–297
130780	**19e**	**Terminal Board Only** for Refs. 19b and 19c	9999–312
	20	**Machine Screw,** No. 14-24x$\frac{3}{8}$" Fil. Hd. S. (Cad. Pl.) for attaching Terminal Board to Case.	
	21	**Lamp Unit with Hood** (When ordering refer to Plate B-2531)	C–8901–35
95407	**22**	**Disc** (used for blanking out light)	B–7632–41
65898	**23**	**Hood** (used when light is blanked out)	C–8842–15
	24	**Machine Screw,** No. 10-30x$\frac{1}{4}$" Rd. Hd. Br. for attaching Ref. 23 to Ref. 22.	
195243	**25**	**Terminal Board** with one Terminal Block Ref. 27, for 2-Color Units without Backlight or 3-Color Units with or without Backlight	9968–1139
208577	**25a**	**Terminal Board** with one Terminal Block Ref. 27, and three 4.5-Ohms resistors Ref. 27b for 3-Color Units with and without Backlight	9968–1139

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	25b	**Terminal Board Complete** with one Terminal Block Ref. 27, and two 4.5-Ohms resistors Ref. 27b for 2-Color Units without Backlight	9968–1139
195242	25c	**Terminal Board Only,** for Refs. 25, 25a and 25b	9999–1169
	26	**Machine Screw,** No. 14-24x7/8" Fil. Hd. S. (Cad. Pl.) for attaching Refs. 25, 25a and 25b to Case.	
114163	27	**Terminal Block Complete** (For details refer to Ref. 25a of Plate P-7290)	9968–630
84470	27a	**Adjustable Resistance Unit** (0.9-Ohm) (For details refer to Ref. Bb of Plate F-6504)	9065–137
156683	27b	**Adjustable Resistance Unit** (4.5-Ohms) (For details refer to Ref. Fb, Plate F-6504)	9065–199
	28	**Machine Screw,** No. 12-28x7/8" Rd. Hd. S. (Cad. Pl.) with 1/4" Pl. S. Lock Washer (1/16" x 1/16") (Cad. Pl.) and Nut Ref. 28a for attaching Refs. 27, 27a, and 27b to Terminal Board.	
35216	28a	**Nut** for Ref. 28	8265–121
195241	29	**Supporting Strip**	9999–1168
116348	30	**Roundel** for Backlight	8468–33
116445	31	**Reflector Support** with Reflector (for Backlight)	C–8901–34
116426	32	**Backlight Hood**	C–8901–33
	33	**Tap Bolt,** 1/4"-20x3/4" Hex. Hd. S. (Cad. Pl.) with 1/4" Pl. S. Lock Washer (1/16"x1/16") (Cad. Pl.).	
116440	34	**Washer**	11893–144
	35	**Machine Screw,** No. 14-24x1/2" Fil. Hd. S. (Cad. Pl.) with 1/4" Pl. S. Lock Washer (1/16"x1/16") (Cad. Pl.).	
	36	**Machine Screw,** No. 10-30x3/8" Fil. Hd. S. (Cad. Pl.) with No. 10 Pl. S. Lock Washer (1/8"x3/64") (Cad. Pl.) for attaching Backlight Lens Support to Case.	

Two and Three-Color Style "R-2" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	36a	**Machine Screw,** No. 10-30x¼" Fil. Hd. Br. with Washer Ref. 36b. To plug holes when Backlight Lens Support is not used.	
76735	**36b**	**Washer** for Ref. 36a	11893–31
116443	**37**	**Backlight Lens Support Complete**	C–8901–34
	38	**Transformer** (Orders should specify Voltage and frequency, See Plate F-6003)	C–8605–
129344	**39**	**Terminal Board** with four Terminal Blocks Ref. 27 for 3-Color Units with and without backlight	9968–684
138849	**39a**	**Terminal Board** with four 0.9-Ohm Resistors Ref. 27a for 3-Color Units with and without backlight.	9968–755
161023	**39b**	**Terminal Board** with six 0.9-Ohm Resistors Ref. 27a for 3-Color Units with and without backlight	9968–952
116129	**40**	**Reflector** for Ref. 31 (for Backlight)	12523–1
77563	**41**	**Lens** for Backlight Lens Support Ref. 37	B–8468–3
	42	**"L-10" Relay** (Not shown) (When ordering refer to Plate E-5080)	B–12671–2

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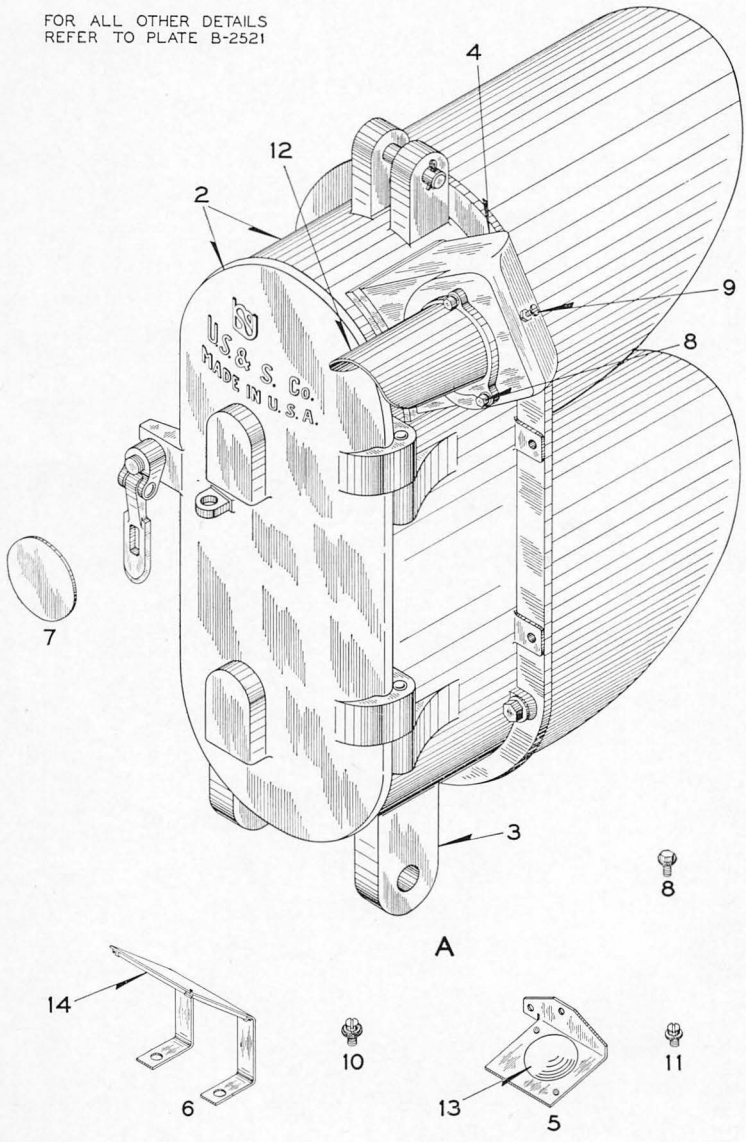

Two and Three-Color Style "R-2" Signal Units with Backlight on Top Lamp Unit (Without Backgrounds)

Two and Three-Color Style "R-2" Signal Units with Backlight on Top Lamp Unit (Without Backgrounds)

Unless otherwise specified, all Two-Color Signal Units will be furnished with Green Top and Red Bottom Lenses, and Three-Color Signal Units with Green Top, Yellow Middle and Red Bottom Lenses.

Orders should specify Lamp Bulbs desired by referring to Plate B-2571.

For Signal Units with Backgrounds refer to Plate B-2517.

For Signal Unit with Backlight on Bottom Light refer to Plate B-2521.

When Signal Units having "L-10" Relays are desired, orders should so state and specify Voltage and Wattage of Lamps.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Two-Color Style "R-2" Signal Unit Ref..... Plate B-2521½ with Backlight on Top Lamp Unit and Lamp Bulbs (Orders should Specify Voltage of Lamps Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Bottom Light	Remarks	Drawing Reference
	A	Green	Red	Without Individual Transformers	C–8900–33
	Aa	Green	Red	With Individual Transformers (Orders should specify voltage and frequency)	C–8900–33

Three-Color Style "R-2" Signal Unit Ref..... Plate B-2521½ with Backlight on Top Lamp Unit and Lamp Bulbs (Orders should Specify Voltage of Lamps Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Middle Light	Bottom Light	Remarks	Drawing Reference
	Ab	Green	Yellow	Red	Without Individual Transformers	C–8900–35
	Ac	Green	Yellow	Red	With Individual Transformers (Orders should specify voltage and frequency)	C–8900–35

Case and Door for Style "R-2" Signal Unit. Arranged for Backlight on Top Lamp Unit.

Piece	Ref.	Case	Door	Remarks	Drawing Reference
131113	**2**	Ref. 3	Ref. 6 of Plate B-2521	For 2-Color Signal	C–8900–33
131115	**2a**	Ref. 3a	Ref. 7 of Plate B-2521	For 3-Color Signal	C–8900–34

Two and Three-Color Style "R-2" Signal Units with Backlight on Top Lamp Unit (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
131112	**3**	Case for 2-Color Style "R-2" Signal arranged for Backlight on Top Lamp Unit	C–8901–10
131111	**3a**	Case for 3-Color Style "R-2" Signal arranged for Backlight on Top Lamp Unit	C–8901–1
130954	**4**	**Backlight Housing**	C–8901–65
130958	**5**	**Backlight Lens Support Complete**	C–8901–65
130956	**6**	**Reflector Support with Reflector**	C–8901–65
116348	**7**	**Roundel** for Backlight	8468–33
	8	**Tap Bolt,** ¼″-20x¾″ Hex. Hd. S. (Tin Pl.) with ¼″ Pl. S. Lock Washer ($\frac{9}{64}$″x$\frac{5}{64}$″) (Tin Pl.) for attaching Backlight Housing to Case and Hood to Housing.	
	9	**Machine Screw,** No. 10-30x1″ Fil. Hd. Br. with Nut Ref. 9a. For adjusting Reflector.	
26942	**9a**	**Nut** for Ref. 9	8109–184
	10	**Machine Screw,** No. 10-30x½″ Fil. Hd. S. (Tin Pl.) with No. 10 Pl. S. Lock Washer ($\frac{1}{16}$″x$\frac{3}{64}$″) (Tin Pl.) and Washer Ref. 10a. For attaching Reflector to Backlight Housing.	
53	**10a**	**Washer** for Ref. 10	7826–78
	11	**Machine Screw,** No. 10-30x⅜″ Fil. Hd. S. (Tin Pl.) with No. 10 Pl. S. Lock Washer ($\frac{1}{16}$″x$\frac{3}{64}$″) (Tin Pl.) For attaching Backlight Lens Support to Case.	
116426	**12**	**Hood** for Backlight	C–8901–33
77563	**13**	**Lens** for Ref. 5	B–8468–3
116129	**14**	**Reflector** for Ref. 6	12523–1
		For all other details refer to Plate B-2521.	

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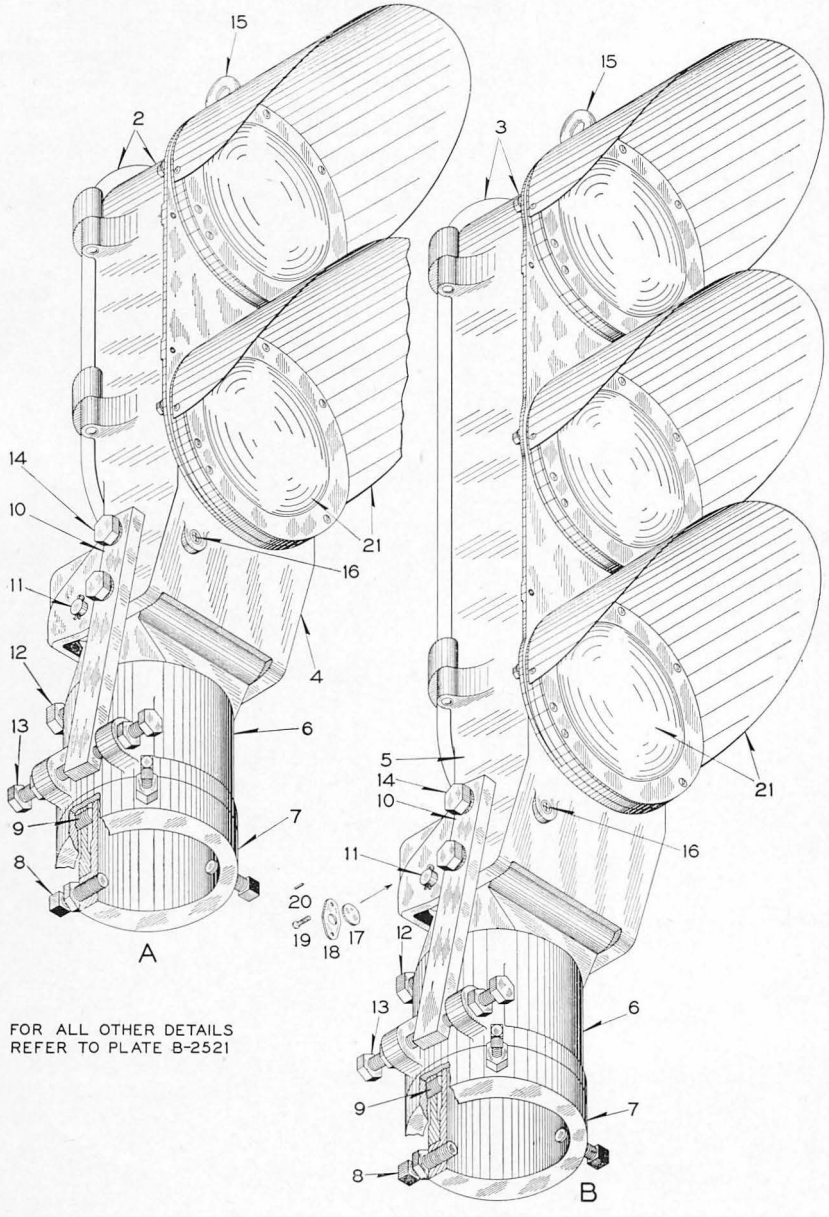

Two and Three-Color Style "P-5" Signal Units (Without Backgrounds)

Two and Three-Color Style "P-5" Signal Units (Without Backgrounds)

Unless otherwise specified, all Two-Color Signal Units will be furnished with Green Top and Red Bottom Lenses and Three-Color Signal Units with Green Top, Yellow Middle and Red Bottom Lenses.

Orders should specify Lamp Bulbs desired by referring to Plate B-2571.

For Signal Units with Background refer to Plate B-2517.

When Signal Units having "L-10" Relays are desired, orders should so state and specify Voltage and Wattage of Lamps.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Two-Color Style "P-5" Signal Unit Ref..... Plate B-2522 (Socket Suitable for Mounting on 5″ Pipe or Casing) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Bottom Light	Backlight	Remarks	Drawing Reference
	A	Green	Red	Without	Without Individual Transformers	C–8900–81
	Aa	Green	Red	With (On Bottom Lamp Unit)	Without Individual Transformers	C–8900–94
	Ab	Green	Red	Without	With Individual Transformers. (Orders should specify voltage and frequency)	C–8900–

Three-Color Style "P-5" Signal Unit Ref..... Plate B-2522 (Socket Suitable for Mounting on 5″ Pipe or Casing) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Middle Light	Bottom Light	Backlight	Remarks	Drawing Reference
	B	Green	Yellow	Red	Without	Without Individual Transformers	C–8900–83
	Ba	Green	Yellow	Red	With (On Bottom Lamp Unit)	Without Individual Transformers	C–8900–78
	Bb	Green	Yellow	Red	Without	With Individual Transformers. (Orders should specify voltage and frequency)	C–8900–
	Bc	Green	Yellow	Red	With (On Bottom Lamp Unit)	With Individual Transformers. (Orders should specify voltage and frequency)	C–8900–

Two and Three-Color Style "P-5" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Case and Door with Sockets and Sight for Style "P-5" Signals

Piece	Ref.	Case	Door, Ref..... Plate B-2521	Remarks	Drawing Reference
166941	2	Ref. 4	Ref. 6	For 2-Color Signal without Backlight	C–8900–80
101043	2a	Ref. 4	Ref. 6b	For 2-Color Signal with Backlight	C–8900–93
166984	3	Ref. 5	Ref. 7	For 3-Color Signal without Backlight	C–8900–82
166220	3a	Ref. 5	Ref. 7b	For 3-Color Signal with Backlight	C–8900–76

Piece	Ref.	Description	Drawing Reference
166940	4	**Case** for 2-Color Style "P-5" Signal.....	C–8901–107
166219	5	**Case** for 3-Color Style "P-5" Signal.....	C–8901–105
166224	6	**Socket**.....	C–8901–106
166218	7	**Pipe Socket**.....	C–8901–104
	8	**Set Screw,** $\frac{5}{8}$"x2$\frac{1}{4}$" Sq. Hd. Cup Pt. I. with $\frac{5}{8}$" Hex. Jam Nut (Cad. Pl.)	
	9	**Set Screw,** $\frac{5}{8}$"x1$\frac{1}{2}$" Sq. Hd. Flat Pt. I. with $\frac{5}{8}$" Hex. Jam Nut (Cad. Pl.).	
166289	10	**Adjusting Bar**.....	9999–774
166288	11	**Pin** with two $\frac{3}{16}$"x1$\frac{1}{8}$" S. Cotters (Cad. Pl.).....	B–10221–1
	12	**Tap Bolt,** $\frac{5}{8}$"-11x2$\frac{3}{4}$" Hex. Hd. (Cad. Pl.).	
	13	**Tap Bolt,** $\frac{5}{8}$"-11x3$\frac{1}{4}$" Hex. Hd. (Cad. Pl.) with $\frac{5}{8}$" Hex. Jam Nut (Cad. Pl.).	
	14	**Cap Screw,** $\frac{5}{8}$"-11x1$\frac{1}{2}$" Hex. Hd. (Cad. Pl.) with $\frac{5}{8}$" Pl. S. Lock Washer ($\frac{7}{32}$"x$\frac{1}{8}$") (Cad. Pl.).	
31092	15	**Eye Bolt** with $\frac{1}{2}$" Hex. Nut (Cad. Pl.).....	8034–104

Two and Three-Color Style "P-5" Signal Units (Without Backgrounds)

(**Continued**)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
166316	**16**	**Sight Complete**	8350–792
152811	**17**	**Sight Plate** for rear of Case	11893–436
410564	**18**	**Clamp Plate** for rear of Case.	
	19	**Machine Screw,** No. 8-36x¼″ Rd. Hd. Br. (N.P.) for attaching Ref. 18 to Case.	
46657	**20**	**Dowel** for Ref. 17	8097–593
	21	**Lamp Unit** (When ordering refer to Plate B-2531)	C–8901–
		For all other details refer to Plate B-2521.	

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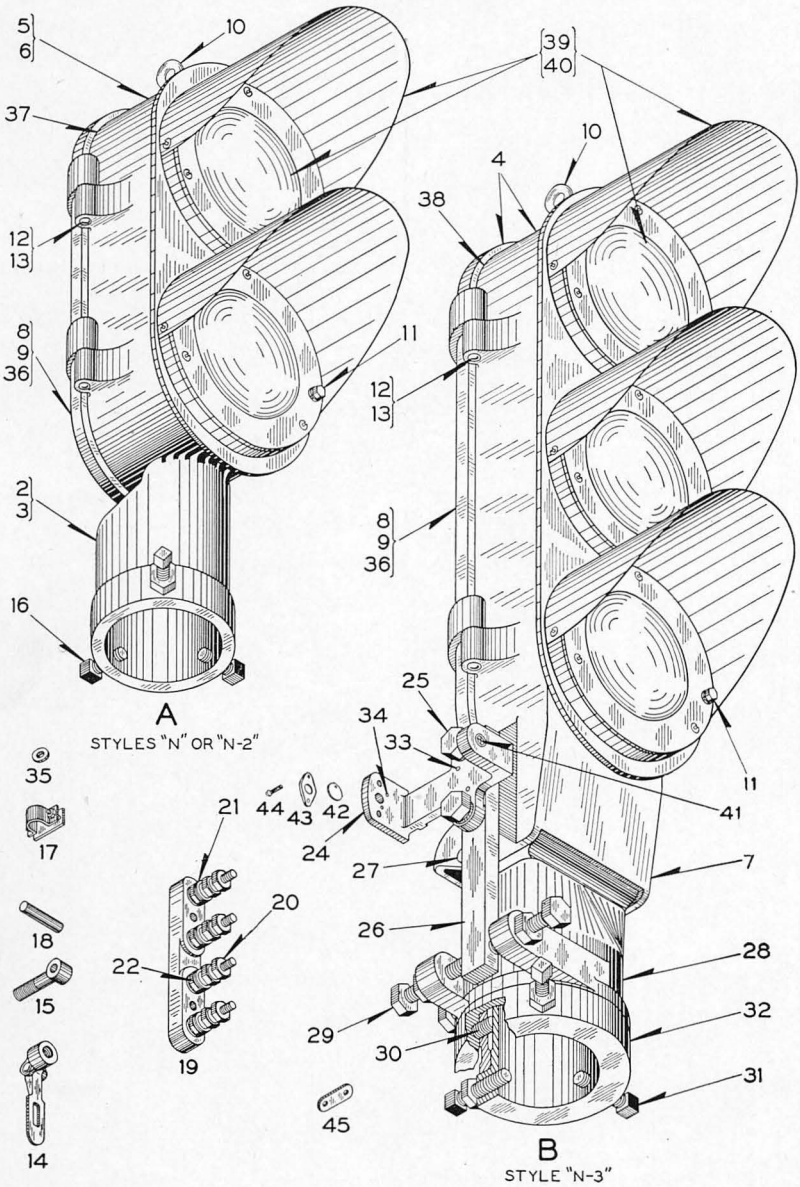

Two and Three-Color Styles "N", "N-2" and "N-3" Signal Units (Without Backgrounds)

Two and Three-Color Styles "N", "N-2" and "N-3" Signal Units (Without Backgrounds)

Unless otherwise specified, all Two-Color Signal Units will be furnished with Green Top and Red Bottom Lenses, and Three-Color Signal Units with Green Top, Yellow Middle and Red Bottom Lenses.
Orders should specify Lamp Bulbs desired by referring to Plate B-2571.
For Signal Units with Backgrounds refer to Plate B-2517.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Two-Color Style..... Signal Unit Ref..... Plate B-2523 (Socket Suitable for Mounting on 4″ Pipe) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Style	Top Light	Bottom Light	Remarks	Drawing Reference
	A	"N"	Green	Red		C–8900–6
	Aa	"N-2"	Green	Red		C–8900–16

Three-Color Style..... Signal Unit Ref..... Plate B-2523 (Socket Suitable for Mounting on 4″ Pipe) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Style	Top Light	Middle Light	Bottom Light	Remarks	Drawing Reference
	Ab	"N"	Green	Yellow	Red		C–8900–5
	Ac	"N-2"	Green	Yellow	Red		C–8900–17

Three-Color Style "N-3" Signal Unit Ref..... Plate B-2523 (Socket Suitable for Mounting on 4″ Pipe) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Middle Light	Bottom Light	Remarks	Drawing Reference
	B	Green	Yellow	Red		C–8900–74

Two-Color Style "N-3" Signal Unit Ref..... Plate B-2523 (Socket Suitable for Mounting on 4″ Pipe) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	Top Light	Bottom Light	Remarks	Drawing Reference
	Ba	Green	Red		C–8900–

Two and Three-Color Styles "N", "N-2" and "N-3" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Case and Door Complete for Style..... Signal Unit.

Piece	Ref.	Style	Case	Door	Remarks	Drawing Reference
72017	**2**	"N"	5	8	For 2-Color Signal Unit	C–8900–6
99451	**2a**	"N-2"	5a	8	For 2-Color Signal Unit	C–8900–9
75308	**3**	"N"	6	9	For 3-Color Signal Unit	C–8900–5
120729	**3a**	"N-2"	6a	9	For 3-Color Signal Unit	C–8900–17
163211	**4**	"N-3"	7	9	For 3-Color Signal Unit (With Sockets and Sight Bracket)	C–8900–73
	4a	"N-3"	7a	8	For 2-Color Signal Unit (With Sockets and Sight Bracket)	C–8900–

Piece	Ref.	Description	Drawing Reference
68246	**5**	**Case** for 2-Color Style "N" Signal.....	C–8901–18
77505	**5a**	**Case** for 2-Color Style "N-2" Signal.....	C–8901–18
68017	**6**	**Case** for 3-Color Style "N" Signal.....	C–8901–13
77586	**6a**	**Case** for 3-Color Style "N-2" Signal.....	C–8901–13
162970	**7**	**Case** for 3-Color Style "N-3" Signal.....	C–8901–100
	7a	**Case** for 2-Color Style "N-3" Signal.....	C–8901–
68248	**8**	**Door with Ventilators and Flax Packing** for 2-Color Unit for Refs. A, Aa and Ba.....	C–8901–19
68247	**8a**	**Door Only**, for Ref. 8.....	C–8901–19
68252	**9**	**Door with Ventilators and Flax Packing** for 3-Color Unit for Refs. Ab, Ac and B.....	C–8901–14
71342	**9a**	**Door Only**, for Ref. 9.....	C–8901–14
31092	**10**	**Eye Bolt** with ½" Hex. Nut (Cad. Pl.).....	8034–104

Two and Three-Color Styles "N", "N-2" and "N-3" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	11	**Tap Bolt,** 1/4"-20x1 1/4" Hex. Hd. (Cad. Pl.) with 1/4" Pl. S. Lock Washer (1/8"x 1/16") (Cad. Pl.) for attaching Lamp Units to Case.	
5873	12	**Pin,** 3/8"x2 5/16" for 2-Color Units	B–10207–1
49634	13	**Pin,** 3/8"x3 3/8" for 3-Color Units	B–10207–1
72832	14	**Hasp Complete**	8299–66
50126	15	**Eye Bolt** for Hasp	8034–64
	16	**Set Screw,** 5/8"x1 1/2" Sq. Hd. Cup Pt. Iron with 5/8" Thin Hex. Nut (Cad. Pl.).	
68109	17	**Wire Guide**	11893–65
68414	17a	**Insulation** for Ref. 17	8750–2047
	17b	**Machine Screw,** No. 10-30x5/8" Rd. Hd. Br. with Nut Ref. 17c for attaching Ref. 17 to Case.	
40058	17c	**Nut** for Ref. 17b	8265–126
37075	18	**Pin,** 3/8"x1 7/8" for attaching Ref. 15 to Case	B–10207–1
	19	**Terminal Board Complete** (Inc. 1-19a, 8-20, 12-21 and 4-22)	9968–
157164	19a	**Terminal Board with Posts Only,** for Ref. 19	9968–923
29101	20	**Nut**	8109–193
29102	21	**Washer**	7828–139
29103	22	**Nut**	8109–194
	23	**Machine Screw,** No. 8-36x3/8" Fil. Hd. S. for attaching Terminal Board Ref. 19 to Case (Not shown).	
163064	24	**Sight Bracket Complete** (Inc. 1-41, 1-42, 1-43 and 2-44)	C–8901–101
	25	**Cap Screw,** 5/8"-11x2 1/2" Hex. Hd. with 5/8" Pl. S. Lock Washer (7/32"x1/8") (Cad. Pl.).	

Two and Three-Color Styles "N", "N-2" and "N-3" Signal Units (Without Backgrounds)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
163111	**26**	**Adjusting Strap**	C–8901–102
199030	**27**	**Pin,** $\frac{3}{4}$″x8$\frac{9}{16}$″ with two $\frac{3}{16}$″x1$\frac{1}{8}$″ S. Cotters (Cad. Pl.)	B–10221–1
163065	**28**	**Socket**	C–8901–102
	29	**Tap Bolt,** $\frac{5}{8}$″-11x3$\frac{1}{4}$″ Hex. Hd. (Cad. Pl.).	
	30	**Set Screw,** $\frac{5}{8}$″x1$\frac{1}{2}$″ Sq. Hd. Flat Pt. Iron with $\frac{5}{8}$″ Hex. Jam Nut (Cad. Pl.).	
	31	**Set Screw,** $\frac{5}{8}$″x2$\frac{1}{4}$″ Sq. Hd. Cup Pt. Iron with $\frac{5}{8}$″ Hex. Jam Nut (Cad. Pl.).	
163062	**32**	**Socket**	C–8901–101
163865	**33**	**Dowel**	8097–643
46657	**34**	**Dowel**	8097–593
122842	**35**	**Washer** used between Terminal Board and Case	8078–880
21919	**36**	**Ventilator Screen** for Doors	B–7318–5
21918	**36a**	**Ventilator Holder** for Doors	B–8317–5
	36b	**Machine Screw,** No. 10-30x$\frac{1}{4}$″ Rd. Hd. S. (Cad. Pl.) for attaching Refs. 36 and 36a to Doors.	
	37	**Flax Packing,** $\frac{3}{8}$″x$\frac{3}{8}$″x3′-5″ Long for Ref. 8.	
	38	**Flax Packing,** $\frac{3}{8}$″x$\frac{3}{8}$″x4′-10″ Long for Ref. 9.	
	39	**Lamp Unit** for Style "N" Signal Units (When ordering refer to Plate B-2532).	
	40	**Lamp Unit** for Styles "N-2" and "N-3" Signal Units (When ordering refer to Plate B-2532).	
152945	**41**	**Sight Complete**	C–9105–10
152811	**42**	**Sight Plate**	11893–436
410564	**43**	**Clamp Plate.**	
	44	**Machine Screw,** No. 8-36x$\frac{1}{4}$″ Rd. Hd. S. (Cad. Pl.) for attaching Ref. 43 to Ref. 24.	

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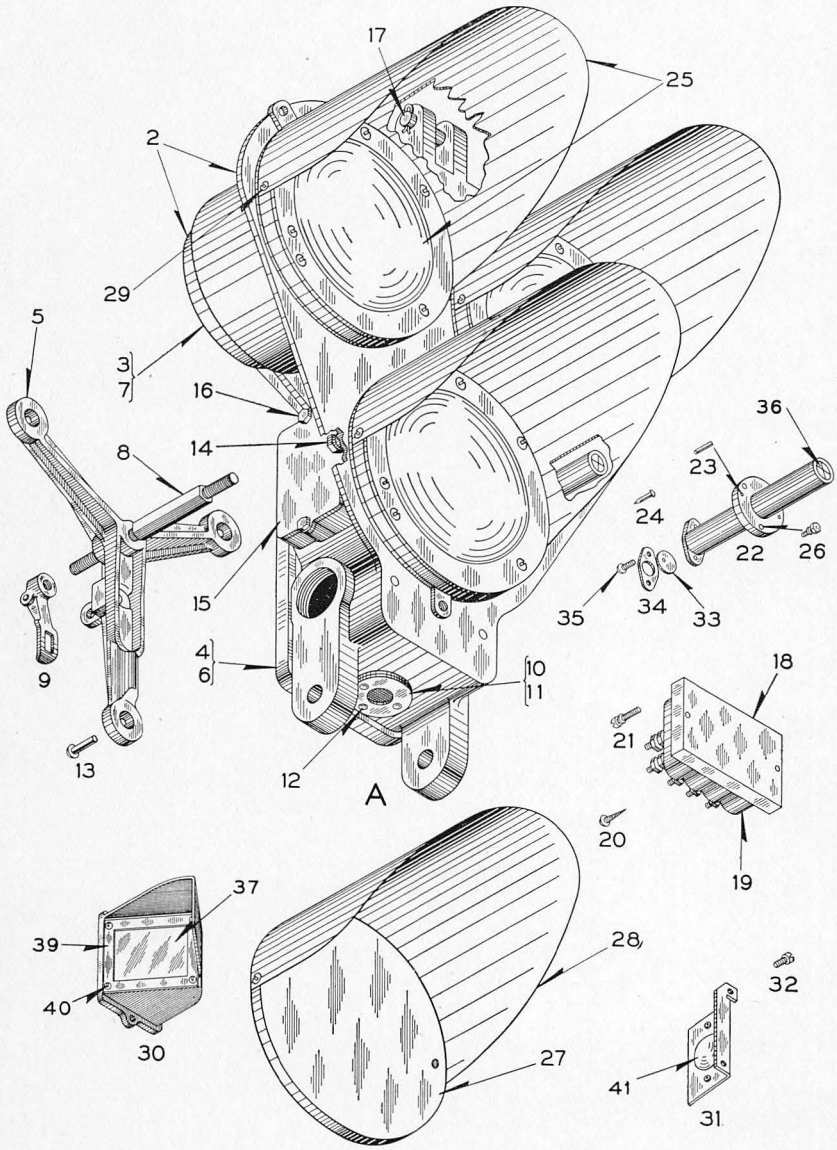

Three-Color Style "TR-2" Triangular Signal Unit (Without Background)

Three-Color Style "TR-2" Triangular Signal Unit (Without Background)

Unless otherwise specified all Signal Units will be furnished with Green L.H. Top, Yellow R.H. Top and Red Bottom Lenses.
Orders should specify Lamp Bulbs desired by referring to Plate B-2571.
Individual Transformers or "L-10" Relays, when required, must be mounted in a separate case and should be ordered from Plate B-2590.
All "TR-2" Signal Units are equipped with Built-in Sighting Device. For Signal Units with Backgrounds refer to Plate B-2517.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Three-Color Style "TR-2" Signal Unit Ref..... Plate B-2524 (Without Individual Transformers) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	L.H. Top Light	R.H. Top Light	Bottom Light	Backlight	Remarks	Drawing Reference
	A	Green	Yellow	Red	Without		C–8900–19
	Aa	Green	Yellow	Red	With (On Bottom Lamp Unit)		C–8900–19

Piece	Ref.	Description	Drawing Reference
122204	**2**	**Case and Covers** (with Sight Tube) for 3-Color Style "TR-2" Light Signal Unit.....	C–8900–19
168022	**2a**	**Case Only,** for Ref. 2.....	C–9011–1
141257	**3**	**Top Cover** with Gasket Ref. 7.....	C–9011–3
141256	**4**	**Bottom Cover** with Gasket Ref. 6.....	C–9011–3
122207	**5**	**Door Clamp** with Staple (without Stud Ref. 8)...	C–9011–2
	6	**Flax Packing,** ⅜″x⅜″x2′-6″ Long for Ref. 4.	
	7	**Flax Packing,** ⅜″x⅜″x19″ Long for Ref. 3.	
122070	**8**	**Stud** for Door Clamp.....	8071–167
72832	**9**	**Hasp Complete**.....	8299–66
913	**10**	**Ventilator Screen**.....	B–7318–3
911	**11**	**Washer**.....	7826–40
	12	**Rivet,** $\frac{3}{16}$″x½″ Rd. Hd. I. for attaching Refs. 10 and 11 to Case.	
	13	**Rivet,** ¼″x1½″ Rd. Hd. I. for attaching Door Covers to Door Clamp.	
	14	**Tap Bolt,** ⅜″-16x1⅜″ Hex. Hd. (Cad. Pl.) with ⅜″ Pl. S. Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″) (Cad. Pl.).	

Three-Color Style "TR-2" Triangular Signal Unit (Without Background)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
122112	**15**	**Backlight Cover** (Used when Backlight is not used).	C–9011–3
	16	**Tap Bolt,** ¼″-20x¾″ Hex. Hd. (Tin Pl.) for attaching Ref. 15 or 30 to Case.	
80726	**17**	**Pin,** ⅝″x3¼″, with two $\frac{3}{16}$″x1⅛″ S. Cotters (Cad. Pl.)	B–10216–1
122071	**18**	**Terminal Board**	9968–647
114167	**19**	**Terminal Block** with Jumper	9968–629
	20	**Wood Screw,** No. 12x1″ Rd. Hd. S. (Cad. Pl.) for attaching Ref. 19 to Ref. 18.	
	21	**Machine Screw,** No. 14-24x1¼″ Fil. Hd. S. (Cad. Pl.) with Washer Ref. 21a for attaching Ref. 18 to Case.	
84	**21a**	**Washer,** for Ref. 21	7828–6
	21b	**Machine Screw,** No. 14-24x½″ Fil. Hd. S. (Cad. Pl.) (Used to plug holes when Terminal Board is not used).	
168021	**22**	**Sight Tube Complete** (Inc. 1-33, 1-34, 2-35 and 1-36)	C–9011–18
46524	**23**	**Dowel Pin,** .1285″x⅝″	8097–423
	24	**Escutcheon Pin,** No. 16x⅜″ Br. for fastening Refs. 33 and 34 to Sight Tube.	
	25	**Lamp Unit** for Style "TR-2" Light Signal (When ordering refer to Plate B-2531)	C–8901–35
	26	**Tap Bolt,** ¼″-20x¾″ Hex. Hd. (Cad. Pl.) with ¼″ Pl. S. Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″) (Cad. Pl.) for attaching Sight Tube to Case.	
95407	**27**	**Disc** (used for blanking out)	B–7632–41
65898	**28**	**Hood**	C–8842–15
	29	**Machine Screw,** No. 10-30x¼″ Rd. Hd. Br. (for attaching Ref. 28 to Ref. 27).	

Three-Color Style "TR-2" Triangular Signal Unit (Without Background)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
138896	**30**	**Backlight Housing Complete** (Inc. 1-37, 1-38, 1-39 and 4-40)	C–9011–12
138868	**31**	**Backlight Lens Support Complete**	C–9011–13
	32	**Machine Screw,** No. 10-30x$\frac{3}{8}$" Fil. Hd. S. (Tin Pl.) with No. 10 Pl. S. Lock Washer ($\frac{1}{16}$"x$\frac{3}{64}$") (Tin Pl.) for attaching Ref. 31 to Lens Unit.	
152811	**33**	**Sight Plate**	11893–436
410564	**34**	**Clamp Plate.**	
	35	**Machine Screw,** No. 8-36x$\frac{1}{4}$" Rd. Hd. B. (N.P.) for attaching Ref. 33 to Ref. 22 and Ref. 22 to Case.	
166313	**36**	**Sight Complete**	8350–792
138869	**37**	**Glass Shield**	8468–51
138895	**38**	**Reflector Complete** (Not Shown)	C–9011–13
138897	**39**	**Frame**	11893–308
	40	**Machine Screw,** No. 6-40x$\frac{3}{8}$" Rd. Hd. S. (Cad. Pl.).	
77563	**41**	**Lens** for Backlight Lens Support	B–8468–3

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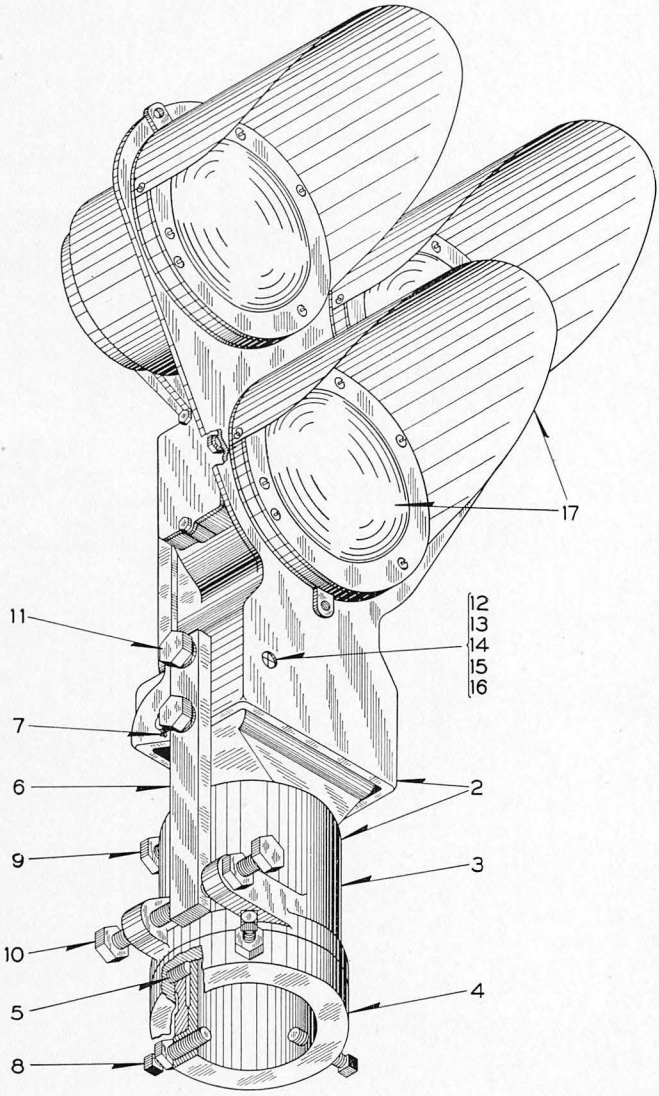

FOR ALL OTHER DETAILS
REFER TO PLATE B-2524

Three-Color Style "TP-5" Triangular Signal Unit (Without Background)

Three-Color Style "TP-5" Triangular Signal Unit (Without Background)

Unless otherwise specified all Signal Units will be furnished with Green L.H. Top, Yellow R.H. Top and Red Bottom Lenses.
Orders should specify Lamp Bulbs desired by referring to Plate B-2571.
Individual Transformers or "L-10" Relays, when required, must be mounted in a separate case and should be ordered from Plate B-2590.
All "TP-5" Signal Units are equipped with Built-in Sighting Device.
For Signal Units with Backgrounds refer to Plate B-2517.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Three-Color Style "TP-5" Signal Unit Ref..... Plate B-2526 (Socket Suitable for Mounting on 5″ Pipe or Casing) (Without Individual Transformers) with Lamp Bulbs (Orders should Specify Lamp Bulbs Desired by Referring to Plate B-2571).

Piece	Ref.	L.H. Top Light	R.H. Top Light	Bottom Light	Backlight	Remarks	Drawing Reference
	A	Green	Yellow	Red	Without		C–8900–79
	Aa	Green	Yellow	Red	With (On Bottom Lamp Unit)		C–8900–79

Piece	Ref.	Description	Drawing Reference
166222	2	**Case, Doors and Sockets** for 3-Color Style "TP-5" Light Signal Unit for 5″ Pipe or Casing (with Built-in Sight)	C–8900–77
166223	2a	**Case Only,** for Ref. 2	C–9011–17
166224	3	**Socket**	C–8901–106
166218	4	**Pipe Socket** for 5″ Pipe or Casing	C–8901–104
	5	**Set Screw,** $\frac{5}{8}$″x1$\frac{1}{2}$″ Sq. Hd. Flat Pt. I. with $\frac{5}{8}$″ Hex. Jam Nut (Cad. Pl.).	
166289	6	**Adjusting Bar**	9999–774
166288	7	**Pin,** $\frac{3}{4}$″x9$\frac{1}{4}$″, with two $\frac{3}{16}$″x1$\frac{1}{8}$″ S. Cotters (Tin Pl.)	B–10221–1
	8	**Set Screw,** $\frac{5}{8}$″x2$\frac{1}{4}$″ Sq. Hd. Cup Pt. I. with $\frac{5}{8}$″ Hex. Jam Nut (Cad. Pl.).	
	9	**Tap Bolt,** $\frac{5}{8}$″-11x2$\frac{3}{4}$″ Hex. Hd. (Cad. Pl.).	
	10	**Tap Bolt,** $\frac{5}{8}$″-11x3$\frac{1}{4}$″ Hex. Hd. (Cad. Pl.) with $\frac{5}{8}$″ Hex. Jam Nut (Cad. Pl.).	
	11	**Cap Screw,** $\frac{5}{8}$″-11x1$\frac{1}{2}$″ Hex. Hd. (Cad. Pl.) with $\frac{5}{8}$″ Pl. S. Lock Washer ($\frac{17}{64}$″x$\frac{3}{16}$″) (Cad. Pl.).	

Three-Color Style "TP-5" Triangular Signal Unit (Without Background)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
152811	**12**	**Sight Plate**	11893–436
410564	**13**	**Clamp Plate.**	
	14	**Machine Screw,** No. 8-36x¼" Rd. Hd. Br. (N.P.)	
166316	**15**	**Sight Complete**	8350–792
46657	**16**	**Dowel**	8097–593
	17	**Lamp Unit** for Style "TP-5" Light Signal (When ordering refer to Plate B-2531)	C–8901–35
		For all other details refer to Plate B-2524.	

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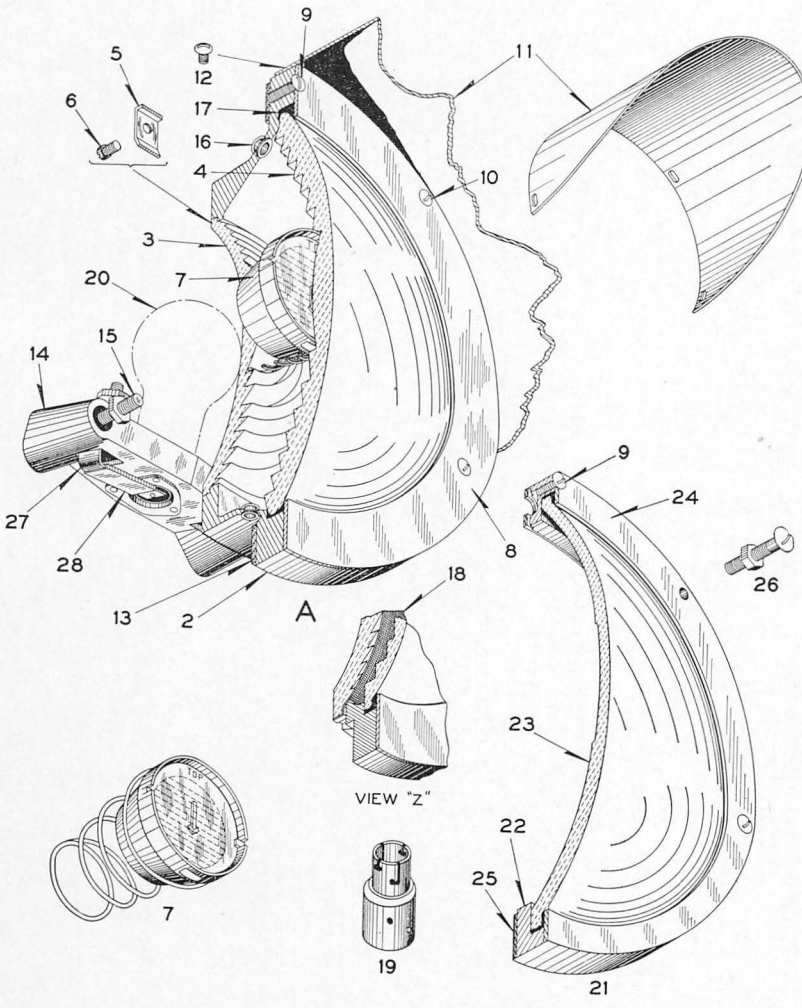

Lamp Unit Assemblies for Styles "R-2", "TR-2", "P-5" and "TP-5" Light Signal Units

Lamp Unit Assemblies for Styles "R-2", "TR-2", "P-5" and "TP-5" Light Signal Units

Deflecting Units Ref. 7 and 7a will be arranged to deflect light down unless otherwise specified.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Lamp Unit (Without Bulb).

Piece	Ref.	Color of Inside Lens	Deflecting Unit	Remarks	Drawing Reference
130782	**A**	Green	Ref. 7	Not Arranged for Backlight	C–8901–35
130783	**Aa**	Yellow	Ref. 7	Not Arranged for Backlight	C–8901–35
130929	**Ab**	Red	Ref. 7	Not Arranged for Backlight	C–8901–35
133170	**Ac**	Lunar White	Ref. 7	Not Arranged for Backlight	C–8901–35
122316	**Ad**	Clear	Ref. 7	With Shield Ref. 18 per View "Z" Not Arranged for Backlight	C–8901–35
130784	**Ae**	Red	Ref. 7	Arranged for Backlight	C–8901–35
178048	**Af**	Yellow	Ref. 7	Arranged for Backlight	C–8901–35
137889	**Ag**	Green	Ref. 7a	Not Arranged for Backlight	C–8901–35
137888	**Ah**	Yellow	Ref. 7a	Not Arranged for Backlight	C–8901–35
137887	**Aj**	Red	Ref. 7a	Not Arranged for Backlight	C–8901–35
208460	**Ak**	Lunar White	Ref. 7	With 8° Spreadlite Lens Ref. 4a Not Arranged for Backlight	C–8901–35
208461	**Am**	Yellow	Ref. 7	With 8° Spreadlite Lens Ref. 4a Not Arranged for Backlight	C–8901–35
162668	**An**	Green	Ref. 7	With 30° Spreadlite Lens Ref. 4b Not Arranged for Backlight	C–8901–81
162669	**Ap**	Yellow	Ref. 7	With 30° Spreadlite Lens Ref. 4b Not Arranged for Backlight	C–8901–81
162670	**Aq**	Red	Ref. 7	With 30° Spreadlite Lens Ref. 4b Not Arranged for Backlight	C–8901–81

Lamp Unit Assemblies for Styles "R-2", "TR-2", "P-5" and "TP-5" Light Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
116439	**2**	**Lens Housing** (Not Arranged for Backlight)	C–8901–49
118018	**2a**	**Lens Housing** (Arranged for Backlight)	C–8901–49
71331	**3**	**Green Inside Lens,** 5½″ Diam.	B–8276–23
68162	**3a**	**Yellow Inside Lens,** 5½″ Diam.	B–8276–23
71329	**3b**	**Red Inside Lens,** 5½″ Diam.	B–8276–23
133171	**3c**	**Lunar White Inside Lens,** 5½″ Diam.	B–8276–23
71330	**3d**	**Clear Inside Lens,** 5½″ Diam.	B–8276–23
71186	**4**	**Clear Outside Standard Lens,** 8⅜″ Diam.	B–8276–22
125818	**4a**	**Clear Outside 8° Spreadlite Lens,** 8⅜″ Diam.	B–8276–31
135757	**4b**	**Clear Outside 30° Spreadlite Lens,** 8⅜″ Diam.	B–8276–34
76735	**5**	**Clip**	11893–31
	6	**Machine Screw,** No. 10-30x¼″ Fil. Hd. Br. for attaching Ref. 5 to Lens Housing.	
130694	**7**	**Light Deflecting Unit** for near indication 25° spread.	C–8901–63
133504	**7a**	**Light Deflecting Unit** for near indication 50° spread.	C–8901–63
71187	**8**	**Lens Ring**	7436–106
	9	**Machine Screw,** No. 10-30x⅜″ Rd. Hd. Br. for attaching Ref. 8 to Lens Housing and Ref. 24 to Ref. 22.	
	10	**Machine Screw,** No. 14-24x⅜″ Rd. Hd. Br. (used to plug holes in lens housing when deflecting prism is not used).	
65898	**11**	**Hood**	C–8842–15
	12	**Machine Screw,** No. 10-30x¼″ Rd. Hd. Br. for attaching Ref. 11 to Lens Housing.	
	13	**Gasket,** ¾″x2′-6″ Long.	

Lamp Unit Assemblies for Styles "R-2", "TR-2", "P-5" and "TP-5" Light Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
123630	**14**	**Lamp Receptacle Complete.** (For use with Lamp Bulbs Refs. A to Cc of Plate B-2571)	12415–6
116518	**15**	**Stud**	8114–594
84244	**16**	**Ventilator**	7318–64
131706	**17**	**Gasket**	8078–1367
131387	**18**	**Wire Gauze Complete** (Used only with Clear Lens)	C–8901–3
146283	**19**	**Adapter** (Required when S-11 Single Contact Signal Precision Lamp Bulbs Refs. G to Hc of Plate B-2571 are used)	12415–10
	20	**Lamp Bulb** (When ordering refer to Plate B-2571)	B–12409–
90897	**21**	**Deflecting Prism Complete** (10° Spread) with mounting Screws Ref. 26	C–8901–8
90898	**21a**	**Deflecting Prism Complete** (20° Spread) with mounting Screws Ref. 26	C–8901–8
90892	**22**	**Lens Ring**	B–7632–41
90890	**23**	**Deflecting Prism Only,** 10° Spread for Ref. 21	B–8276–29
90891	**23a**	**Deflecting Prism Only,** 20° Spread for Ref. 21a	B–8276–29
90894	**24**	**Lens Ring**	7436–105
90893	**25**	**Gasket**	8078–1318
	26	**Machine Screw,** No. 14-24x1¼" Rd. Hd. Br. with Nut Ref. 26a. For attaching Deflecting Prism Ref. 21 or 21a to Lens Housing Ref. 2 or 2a.	
38449	**26a**	**Nut** for Ref. 26	8265–128
123641	**27**	**Contact Spring** with Insulation	8385–1300
141531	**28**	**Insulation** (For Repairs)	8750–2251

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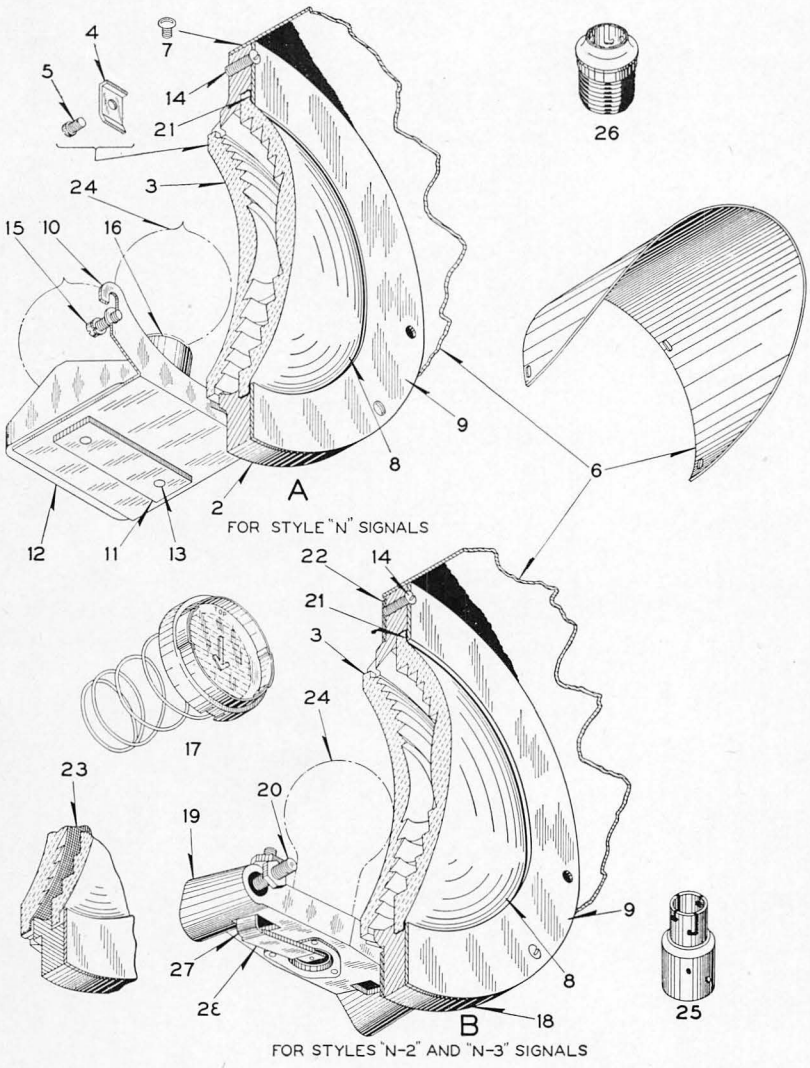

Lamp Unit Assemblies for Styles "N", "N-2", "N-3", "TN" and "TN-2" Light Signal Units

Lamp Unit Assemblies for Styles "N", "N-2", "N-3", "TN" and "TN-2" Light Signal Units

Deflecting Unit Ref. 17 or 17a can be applied to all units. If desired orders should so state and deflecting unit will be assembled to deflect light down unless otherwise specified.

If Spreadlite Lens Ref. 8a or 8b is desired, orders should so state.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Lamp Unit for Style "N" and "TN" Signal Units (Without Bulb) Orders should specify Hood desired by referring to Ref. 6 or 6a.

Piece	Ref.	Color of Inside Lens	Lamp Receptacle	Remarks	Drawing Reference
	A	Green	Lamp Grip Shell		C–8901–17
	Aa	Yellow	Lamp Grip Shell		C–8901–17
	Ab	Red	Lamp Grip Shell		C–8901–17
	Ac	Clear	Lamp Grip Shell		C–8901–17
	Ad	Green	Marine Shell		C–8901–17
	Ae	Yellow	Marine Shell		C–8901–17
	Af	Red	Marine Shell		C–8901–17

Lamp Unit for Styles "N-2", "N-3" and "TN-2" Signal Units (Without Bulb) Orders should specify Hood desired by referring to Ref. 6 or 6a.

Piece	Ref.	Color of Inside Lens	Remarks	Drawing Reference
	B	Green		C–8901–36
	Ba	Yellow		C–8901–36
	Bb	Red		C–8901–36
	Bc	Green	With 10° Spreadlite Lens Ref. 8a	C–8901–36
	Bd	Yellow	With 10° Spreadlite Lens Ref. 8a	C–8901–36
	Be	Red	With 10° Spreadlite Lens Ref. 8a	C–8901–36

Lamp Unit Assemblies for Styles "N", "N-2", "N-3", "TN" and "TN-2" Light Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
68489	**2**	**Lens Housing** for Styles "N" and "TN" Signals	C–8901–15
71331	**3**	**Green Inside Lens,** 5½" Diam.	B–8276–23
68162	**3a**	**Yellow Inside Lens,** 5½" Diam.	B–8276–23
71329	**3b**	**Red Inside Lens,** 5½" Diam.	B–8276–23
71330	**3c**	**Clear Inside Lens,** 5½" Diam.	B–8276–23
116647	**3d**	**Purple Inside Lens,** 5½" Diam.	B–8276–23
133171	**3e**	**Lunar White Inside Lens,** 5½" Diam.	B–8276–23
76735	**4**	**Clip**	11893–31
	5	**Machine Screw,** No. 10-30x¼" Fil. Hd. Br. for attaching Ref. 4 to Lens Housing.	
68505	**6**	**Hood** for High Signals	C–8901–16
80884	**6a**	**Hood** for Dwarf Signals	C–8901–20
	7	**Machine Screw,** No. 10-30x¼" Rd. Hd. Br. for attaching Ref. 6 or 6a to Lens Housing.	
68507	**8**	**Clear Outside Standard Lens,** 6⅜" Diam.	B–8276–30
162738	**8a**	**Clear Outside 10° Spreadlite Lens,** 6⅜" Diam.	B–8276–59
162702	**8b**	**Clear Outside 30° Spreadlite Lens,** 6⅜" Diam.	B–8276–58
68508	**9**	**Lens Ring**	7436–112
111760	**10**	**Lamp Support**	11893–121
111757	**11**	**Locking Plate**	9999–119
87187	***12**	**Lamp Grip Shell Receptacle** (Arranged for two lamp bulbs)	B–9954–11
87214	***12a**	**Marine Shell Lamp Receptacle** (Arranged for two lamp bulbs) (For Elevated Structure)	B–9954–11
		*Arranged for two lamp bulbs in multiple, a common usage when 110 volt Lamps that are NOT double filament are used. When low voltage double filament lamps are used the rear lamp may be omitted.	

Lamp Unit Assemblies for Styles "N", "N-2", "N-3", "TN" and "TN-2" Light Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	13	**Machine Screw,** No. 10-30x$\frac{5}{8}$" Fil. Hd. Br. for attaching Ref. 12 or 12a to Locking Plate.	
	14	**Machine Screw,** No. 10-30x$\frac{3}{8}$" Rd. Hd. Br. for attaching Ref. 9 to Lens Housing.	
	15	**Machine Screw,** No. 10-30x$\frac{1}{2}$" Fil. Hd. Br. with No. 10 Pl. S. Lock Washer ($\frac{1}{8}$"x$\frac{3}{64}$") and Washer Ref. 15a for attaching Ref. 10 to Lens Housing.	
26381	**15a**	**Washer** for Ref. 15	7826–78
122102	**16**	**Insulating Tubing** (used with Ref. 12)	B–10277–1
134327	**17**	**Light Deflecting Unit** for near indication 25° spread	C–8901–63
	17a	**Light Deflecting Unit** for near indication 50° spread	C–8901–63
73358	**18**	**Lens Housing** for "N-2", "N-3" and "TN-2" Signals	C–8901–22
123630	**19**	**Lamp Receptacle Complete**	12415–6
116607	**20**	**Stud**	8114–596
131706	**21**	**Gasket**	8078–1367
	22	**Gasket,** $\frac{3}{4}$"x2'-0" Long.	
78526	**23**	**Wire Gauze Complete** (For use with Clear Inner Lens when no Light Deflecting Unit is used)	C–8901–3
131387	**23a**	**Wire Gauze Complete** (For use with Clear Inner Lens when Light Deflecting Unit is used)	C–8901–3
	24	**Lamp Bulb** (When ordering refer to Plate B-2571)	B–12409
146283	**25**	**Adapter** (Required when S-11 Single Contact Signal Precision Lamp Bulbs Refs. G to Hc of Plate B-2571 are used) for Refs. B to Be	12415–10
119806	**26**	**Adapter** (Screw to Bayonet) For use with S-11 Single Contact $\frac{1}{64}$" Precision Lamps applied to Screw Base Socket for Refs. A to Af	9954–57
123641	**27**	**Contact Spring** with Insulation	8385–1300
141531	**28**	**Insulation** (For Repairs)	8750–2251

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Section
B

Plate B-2566

SIGNALS

Style "N-2" Color Light Dwarf Signal with Relay and Transformer Compartment

Remove Staple Before Filing Pages in Loose Leaf Covers.

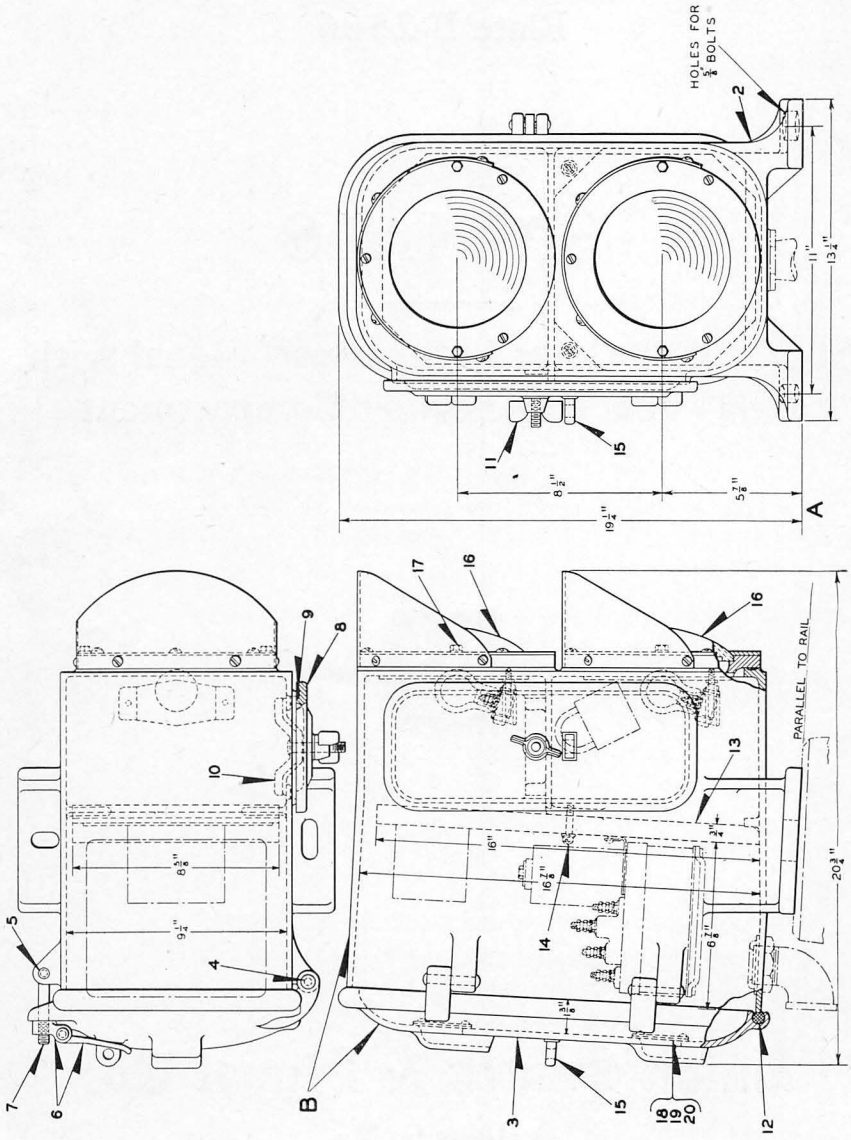
Union Switch & Signal Co.
Swissvale, Pa.

September, 1930

Printed in U. S. A.

PLATE B-2566

UNION SWITCH & SIGNAL CO.



STYLE "N-2" TWO COLOR DWARF SIGNAL

UNION SWITCH & SIGNAL CO.

STYLE "N-2" COLOR LIGHT DWARF SIGNAL

WITH RELAY AND TRANSFORMER COMPARTMENT

Unless otherwise specified all signals will be furnished with 30-Volt, 36-Watt Lamps.

If lenses of different colors than those listed below are desired, orders should so state.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
161203	**A**	**Two-Color Style "N-2" Dwarf Light Signal,** complete, Top Lens Red and Bottom Lens Yellow, for mounting on Concrete foundation. With rear compartment for Relay and Transformer	C–8900–71
	Aa	**Two-Color Style "N-2" Dwarf Light Signal,** complete, Top Lens Green and Bottom Lens Yellow, for mounting on Concrete foundation. With rear compartment for Relay and Transformer	C–8900–71
	Ab	**Two-Color Style "N-2" Dwarf Light Signal,** complete, Top Lens Green and Bottom Lens Red, for mounting on Concrete foundation. With rear compartment for Relay and Transformer	C–8900–71
161204	**B**	**Case and Door,** complete with Side Door, Yoke, Hasp, Board, Screw and Pins	C–8900–71
161202	**2**	**Case only**	C–8901–98
157398	**3**	**Door,** complete with Gasket Ref. 12, Staple and Ventilators	C–8901–99
5873	**4**	**Pin,** $\frac{3}{8}$"x2$\frac{5}{16}$" for attaching Door to Case	B–10207–1
37075	**5**	**Pin,** $\frac{3}{8}$"x1$\frac{7}{8}$" for attaching Eye Bolt to Case	B–10207–1
72832	**6**	**Hasp,** complete	8299–66
50126	**7**	**Eye Bolt**	8034–64
	8	**Side Cover** with Gasket Ref. 9	C–8901–99
157576	**9**	**Gasket only** for Ref. 8	8078–1449
157574	**10**	**Yoke with Stud only**	12562–5
111526	**11**	**Wing Nut** for Yoke Ref. 10	8331–65

UNION SWITCH & SIGNAL CO.

STYLE "N-2" COLOR LIGHT DWARF SIGNAL WITH RELAY AND TRANSFORMER COMPARTMENT (Continued)

Unless otherwise specified all signals will be furnished with 30-Volt, 36-Watt Lamps.

If lenses of different colors than those listed below are desired, orders should so state.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	12	**Gasket, 3/8″** Square Flax Packing 4′ 0″ long for Door Ref. 3.	
157653	13	**Board only** for rear compartment.....	12443–156
	14	**Machine Screw No. 14-24x1 1/4″** Fil. Hd. S. with 1/4″ Std. Plate Washer and 1/4″ Plain Lock Washer (1/8″ x 1/16″) Cad. Pl. for attaching Board to Case.	
145221	15	**Staple only** for rear and side door.....	8191–130
	16	**Lamp Unit,** complete (For ordering references and details refer to Refs. E to Ec, Plate B-2565) (Without Lamp Bulb).....	C–8901–36
	17	**Tap Bolt, 1/4″-20x1 1/4″** Hex. Hd. with 1/4″ Plain Lock Washer (1/8″x 1/16″) Cad. Pl. for attaching Lamp Units to Case.	
21918	18	**Screen Holder** for Ventilator.....	B–7318–5
21919	19	**Screen** for Ventilator.....	B–7318–5
	20	**Machine Screw No. 10-30x1/4″** Rd. Hd. S. (Cad. Pl.) for attaching Ventilator to Case.	

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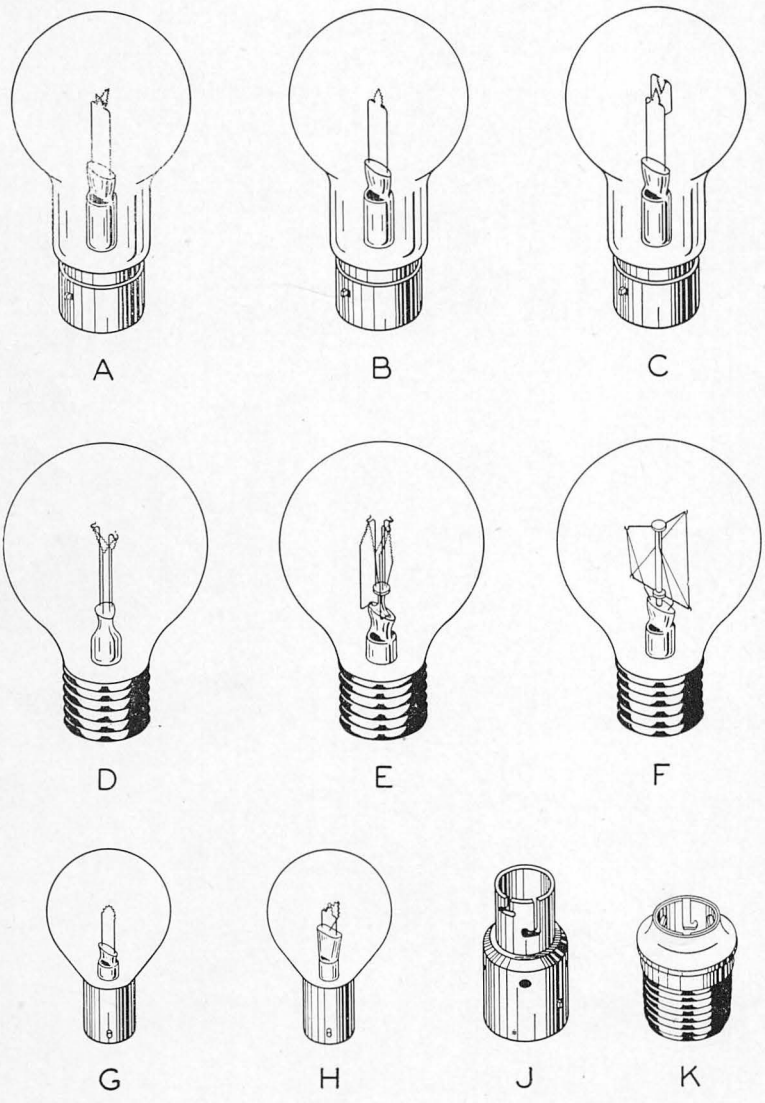

Lamp Bulbs for Color Light Signals

Lamp Bulbs for Color Light Signals

Special Rebased Lamps for Styles "R-2", "TR-2", "P-5", "TP-5", "N-2" and "N-3" Signals.

Screw Base Lamps for Style "N" Signals.

Bayonet Candelabra Base Lamps for Semaphore and Marker Lights, or with suitable adapter for use in any Signal.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Rating		Light Center Length	Rated Average Life in Hours	Drawing Reference
		Volts	Watts			
Lamp, Special Rebased Base, Double Filament.						
122995	**A**	8	10	$2\frac{7}{32}''$	1000	B–12409–16
116447	**Aa**	10	18	$2\frac{7}{32}''$	1500	B–12409–16
116449	**Ab**	10	30	$2\frac{7}{32}''$	1500	B–12409–16
116451	**Ac**	10	40	$2\frac{7}{32}''$	1500	B–12409–16
120620	**Ad**	30	36	$2\frac{7}{32}''$	1500	B–12409–16
Lamp, Special Rebased Base, Single Filament.						
144539	**B**	8	10	$2\frac{7}{32}''$	1000	B–12409–21
144541	**Ba**	8	18	$2\frac{7}{32}''$	1500	B–12409–21
135247	**Bb**	10	10	$2\frac{7}{32}''$	1500	B–12409–21
142944	**Bc**	10	18	$2\frac{7}{32}''$	1500	B–12409–21
144543	**Bd**	10	30	$2\frac{7}{32}''$	1500	B–12409–21
176936	**Be**	10	45	$2\frac{7}{32}''$	3000	B–12409–21
144551	**Bf**	120	30	$2\frac{7}{32}''$	1500	B–12409–21
Lamp, Special Rebased Base, Special Double Filament.						
189826	**C**	8	10+3.5	$2\frac{7}{32}''$	1500 Main Fil. 19000 Sec. Fil.	B–12409–25
184972	**Ca**	8	18+3.5	$2\frac{7}{32}''$	1500 Main Fil. 19000 Sec. Fil.	B–12409–25
184971	**Cb**	10	18+3.5	$2\frac{7}{32}''$	1500 Main Fil. 19000 Sec. Fil.	B–12409–25
189825	**Cc**	10	30+6	$2\frac{7}{32}''$	1500 Main Fil. 19000 Sec. Fil.	B–12409–25
Lamp, Screw Base, Semi-Concentrated Double Filament.						
112968	**D**	30	36	$2\frac{5}{16}''$	1500	B–12409–6

Lamp Bulbs for Color Light Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Rating		Light Center Length	Rated Average Life in Hours	Drawing Reference
		Volts	Watts			
Lamp, Screw Base, Semi-Concentrated Single Filament.						
95268	**E**	120	36	$2\frac{3}{16}''$	1500	B–12409–6
Lamp, Screw Base, Large Single Filament, Wide Angle, Very Short Range Indication.						
68468	**F**	60	25	$2\frac{3}{16}''$	1000	B–12409–6
68467	**Fa**	115	25	$2\frac{3}{16}''$	1000	B–12409–6
Lamp, (S-11) Single Contact Bayonet Candelabra Base, Single Filament, $\frac{1}{64}''$ Signal Precision Basing.						
136626	**G**	6	3	$1\frac{1}{4}''$	1000	B–12409–18
168741	**Ga**	8	5	$1\frac{1}{4}''$	1000	B–12409–18
142967	**Gb**	8	10	$1\frac{1}{4}''$	1000	B–12409–18
177731	**Gc**	8	18	$1\frac{1}{4}''$	1000	B–12409–24
148970	**Gd**	10	5	$1\frac{1}{4}''$	1000	B–12409–18
146930	**Ge**	10	10	$1\frac{1}{4}''$	1000	B–12409–18
151138	**Gf**	10	18	$1\frac{1}{4}''$	1000	B–12409–18
175067	**Gg**	10	25	$1\frac{1}{4}''$	1000	B–12409–18
145877	**Gh**	11	11	$1\frac{1}{4}''$	2500	B–12409–18

Lamp Bulbs for Color Light Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Lamp, (S-11) Single Contact Bayonet Candelabra Base, Special Double Filament, $\frac{1}{64}$″ Signal Precision Basing.

Piece	Ref.	Rating		Light Center Length	Rated Average Life in Hours	Drawing Reference
		Volts	Watts			
192057	**H**	8	5+3.5	1¼″	1000	B–12409–24
159440	**Ha**	8	13+3.5	1¼″	1000	B–12409–24
199177	**Hb**	8	18+3.5	1¼″	1000	B–12409–24
182814	**Hc**	10	13+3.5	1¼″	1000	B–12409–24
191859	**Hd**	11.3	14.4+3.5	1¼″	1000	B–12409–24

Piece	Ref.	Description	Drawing Reference
146283	**J**	**Adapter** (for use with S-11 Single Contact $\frac{1}{64}$″ Precision Lamps)	12415–10
119806	**K**	**Adapter** (Screw to Bayonet) For use with S-11 Single Contact $\frac{1}{64}$″ Precision Lamps applied to Screw Base Socket	9954–57

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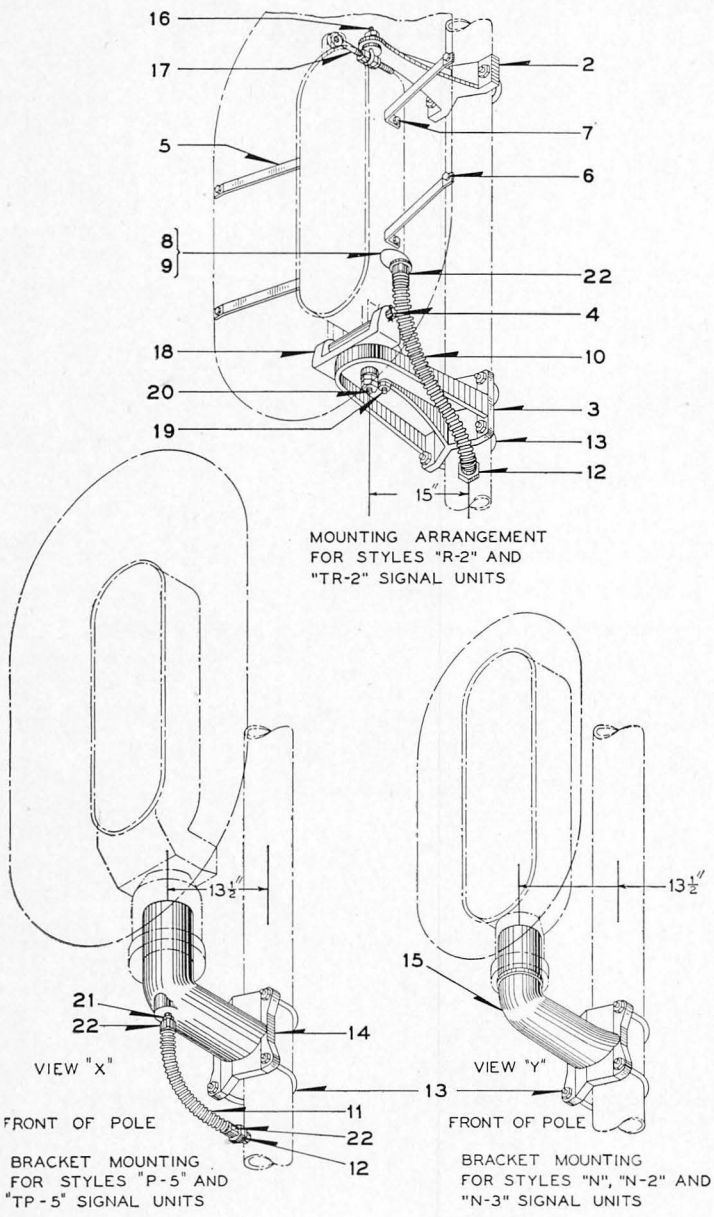

Mounting Brackets for Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

Mounting Brackets for Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
80774	**2**	**Upper Adjusting Bracket Complete** (Inc. 1-2a, 1-16 and 1-17)	C–8901–5
80743	**2a**	**Upper Adjusting Bracket Only**	C–8901–5
80773	**3**	**Lower Adjusting Bracket Complete** (Inc. 1-3a, 1-18, 1-19 and 1-20)	C–8901–6
80719	**3a**	**Lower Adjusting Bracket Only**	C–8901–6
80823	**4**	**Pin,** $\frac{3}{4}$″x10$\frac{9}{16}$″ with two $\frac{3}{16}$″x1$\frac{1}{8}$″ S. Cotters (Cad. Pl.)	B–10221–1
80822	**5**	**Brace**	C–8901–7
	6	**Bolt,** $\frac{3}{8}$″x1″ Hex. Hd. S. (Cad. Pl.) with Washer Ref. 6b, $\frac{3}{8}$″ Pl. S. Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″) (Cad. Pl.) and Nut Ref. 6a.	
534	**6a**	**Hex. Nut**	8109–29
73021	**6b**	**Washer**	7826–34
	7	**Tap Bolt,** $\frac{3}{8}$″x$\frac{1}{2}$″ Hex. Hd. (Cad. Pl.).	
	8	**Street Ell, Std.** 1$\frac{1}{4}$″ (Galv.).	
	8a	**Street Ell, Std.** 2″ (Galv.).	
	9	**Reducing Bushing,** 2″ to 1$\frac{1}{4}$″ (Galv.) (Used with 1$\frac{1}{4}$″ Flexible Conduit only).	
	10	**1$\frac{1}{4}$″ Galv. S. S. Flexible Steel Conduit,** 1$\frac{1}{4}$″ I.D.x 1.665″ O.D. 2′-2″ long for "R-2" and "TR-2" Signals.	
	10a	**2″ Galv. S.S. Flexible Steel Conduit,** 2″ I.D.x2.440″ O.D. 2′-2″ long, for "R-2" and "TR-2" Signals.	
	11	**1$\frac{1}{4}$″ Galv. S.S. Flexible Steel Conduit,** 1$\frac{1}{4}$″ I.D.x 1.665″ O.D. 16″ long, for "P-5" and "TP-5" Signals.	
	12	**1$\frac{1}{4}$″ M.I. Galv. Male and Female Union.**	
	12a	**2″ M.I. Galv. Male and Female Union.**	

Mounting Brackets for Styles "R-2", "P-5", "N", "N-2", "N-3", "TR-2" and "TP-5" Signal Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
43931	**13**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 2, 3, 14 and 15 to 5" Pipe or Casing....	8782–66
44199	**13a**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 2, 3, 14 and 15 to 6" Pipe.....	8782–69
176661	**13b**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 2, 3, 14 and 15 to 7" Pipe.....	8782–192
54865	**13c**	**"U" Bolt,** ¾", with Hex. Nuts (Cad. Pl.) for attaching Refs. 2, 3, 14 and 15 to 4" Pipe.....	8782–102
	14	**Bracket** with coupling for mounting Styles "P-5" and "TP-5" Signal Units to 4", 5" or 6" Pipe....	C–8034–18
68562	**15**	**Bracket** for mounting Styles "N", "N-2" and "N-3" Signal Units to 4" or 5" Pipe.....	C–8034–15
	16	**Staple** with $\frac{3}{16}$"x1⅛" S. Cotter and ¾" Hex. Nut (Cad. Pl.).....	8191–100
80744	**16a**	**Staple Only**.....	8191–100
	17	**Eye Bolt** with three ¾" Hex. Nuts (Cad. Pl.).....	8034–152
80745	**17a**	**Eye Bolt Only**.....	8034–152
80720	**18**	**Supporting Bracket**.....	C–8901–5
	19	**Bolt** with ¾" Thin Hex. Nut (Cad. Pl.), $\frac{3}{16}$"x1⅛" S. Cotter (Cad. Pl.) and Washer Ref. 19b.....	8132–357
80748	**19a**	**Bolt Only** for Ref. 19.....	8132–357
80749	**19b**	**Washer**.....	7826–30
	20	**Bolt** with two 1" Thin Hex. Nuts (Cad. Pl.), ¼"x1½" Cotter (Cad. Pl.) and Washer Ref. 20b.....	8479–196
81667	**20a**	**Bolt Only,** for Ref. 20.....	8479–196
80821	**20b**	**Washer**.....	7826–20
	21	**Pipe Coupling,** 1¼" Galv.	
	22	**1¼" M.I. Galv. Straight Box Connector.**	
	22a	**2" M.I. Galv. Straight Box Connector.**	

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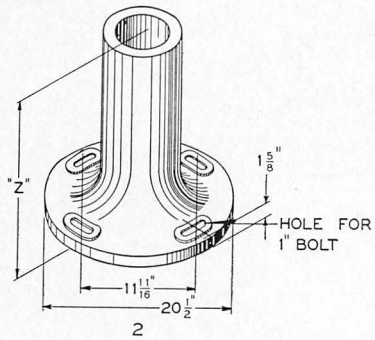

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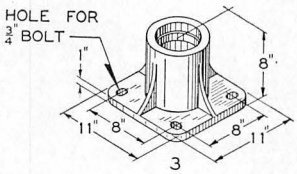

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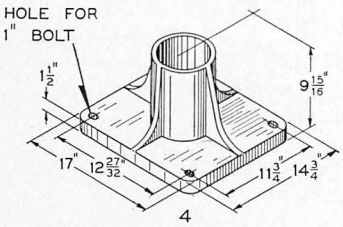

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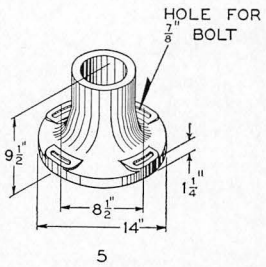

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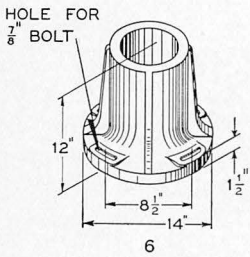

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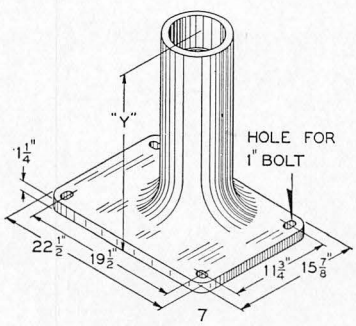

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Bases (Leaded) for Signals

Leaded Bases for Signals

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
131006	**2**	**Base.** "Z" dimension 22″, for 5″ Pipe (5 9/16″ O.D.) For Ground Mounting (Pat. No. T-131006) (Most commonly used)	C–6782–11
181229	**2a**	**Base.** "Z" dimension 16″, for 5″ Pipe (5 9/16″ O.D.) For Ground Mounting (Pat No. T-181229)	C–6782–13
154839	**2b**	**Base.** "Z" dimension 12″, for 5″ Casing (5 1/4″ O.D.) For Ground Mounting (Pat. No. T-154839)	C–6782–13
44938	**2c**	**Base.** "Z" dimension 22″, for 6″ Pipe. For Ground Mounting (Pat. No. T-10710A)	C–6782–1
193563	**3**	**Base** for 4″ Pipe. For Ground Mounting (Pat. No. T-193563A)	C–6782–15
	4	**Base** for 5″ Casing (5 1/4″ O.D.) For Ground and Bridge Mounting	C–6782–12
83864	**5**	**Base** for 5″ Pipe. For Instrument Case Mounting (Pat. No. 13851)	C–3231–2
87753	**5a**	**Base** for 5″ Casing (5 1/4″ O.D.) For Instrument Case Mounting (Pat. No. T-2889)	C–3125–1
115264	**6**	**Base** for 5″ Pipe (5 9/16″ O.D.) For Instrument Case Mounting (Pat. No. T-115264)	C–3231–2
61092	**7**	**Base.** "Y" dimension 22″, for 5″ Pipe (5 9/16″ O.D.) For Bracket Post Mounting (Pat. No. T-13839B) (Most commonly used)	C–7583–1
182226	**7a**	**Base.** "Y" dimension 16″, for 5″ Pipe (5 9/16″ O.D.) For Bracket Post Mounting (Pat. No. 182226)	C–6782–13
133716	**7b**	**Base.** "Y" dimension 22″, for 6″ Pipe. For Bracket Post Mounting (Pat. No. T-133716)	C–7583–1

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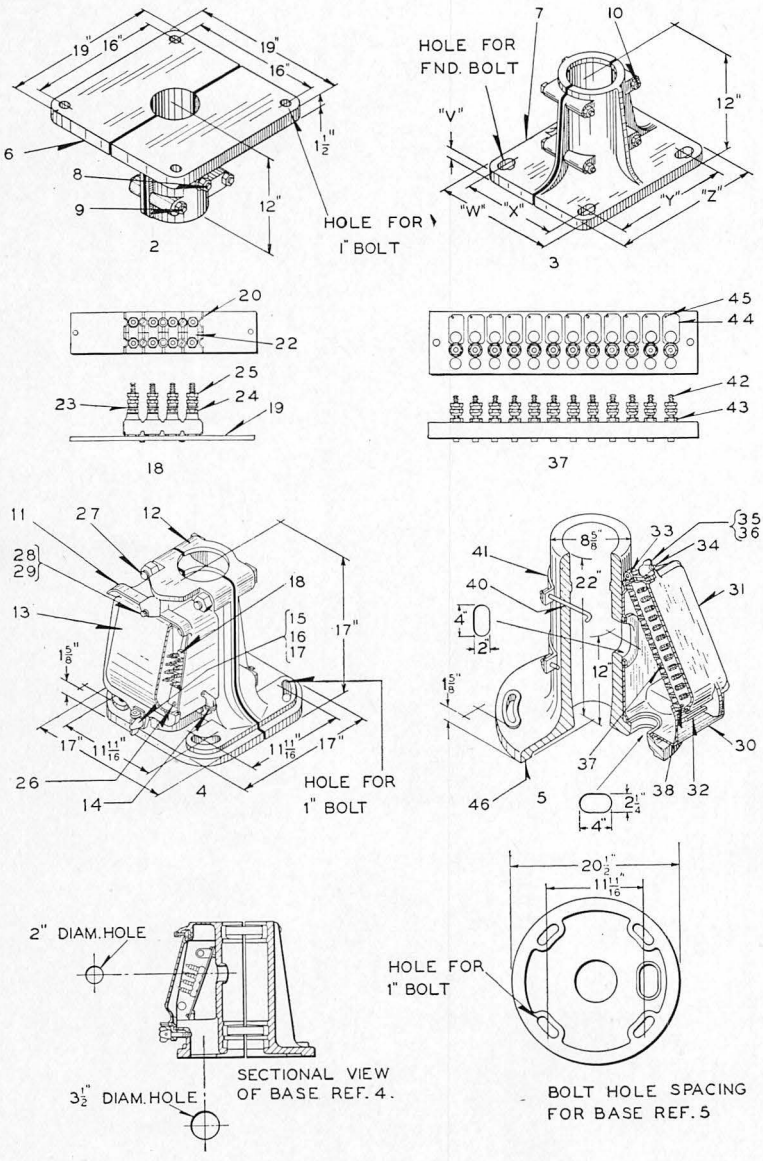

Bases (Clamp and Leaded) for Signals

Clamp and Leaded Bases for Signals

Combined Base and Junction Box for 4″ Pipe Post Will Be Found on Plate K-152

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
170595	**2**	**Clamp Base Complete** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) For Bridge Mounting	C–6425–3
85029	**3**	**Clamp Base** with holes for 1″ Foundation Bolts, Complete for 5″ Pipe ($5\frac{9}{16}$″ O.D.) For Ground and Bridge Mounting (Dimensions: V-$1\frac{1}{4}$″, W-$14\frac{3}{4}$″, X-$11\frac{3}{4}$″, Y-$12\frac{27}{32}$″ and Z-17″)	C–6634–5
136947	**3a**	**Clamp Base** with holes for $\frac{3}{4}$″ Foundation Bolts, Complete for 4″ Pipe. For Ground Mounting (Dimensions: V-1″, W-12″, X-$9\frac{1}{2}$″, Y-$9\frac{1}{2}$″, and Z-12″) Suitable for One or Two Unit Signals only	C–6634–7
108573	**4**	**Clamp Base with Junction Box and Two 4-Way Terminal Boards** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) For Ground Mounting	C–6634–25
217199	**4a**	**Clamp Base with Junction Box and One 6-Way Terminal Board** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) For Ground Mounting	C–6634–25
214857	**4b**	**Clamp Base with Two Junction Boxes and Four 4-Way Terminal Boards** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) For Ground Mounting	C–6634–24
	5	**Leaded Base and Junction Box** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) With One 12-Way Terminal Board (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 1-37, 2-38, 2-39, 4-40, 2-41 and 1-46)	C–9180–37
	5a	**Leaded Base and Junction Box** for 6″ Pipe. With One 12-Way Terminal Board (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 1-37, 2-38, 2-39, 4-40, 2-41 and 1-46a)	C–9180–37
212958	**5b**	**Junction Box with One Terminal Board** (Without Base, Terminal Posts, Nuts, Washers, Tags, Hook Bolts and Clamps) (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 1-37a, 2-38 and 2-39)	C–9180–37
	5c	**Leaded Base and Junction Box** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) With Two 12-Way Terminal Boards (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 2-37, 4-38, 2-39, 4-40, 2-41 and 1-46)	C–9180–37

Clamp and Leaded Bases for Signals

Combined Base and Junction Box for 4″ Pipe Post Will Be Found on Plate K-152

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	5d	**Leaded Base and Junction Box** for 6″ Pipe. With Two 12-Way Terminal Boards (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 2-37, 4-38, 2-39, 4-40, 2-41 and 1-46a)	C–9180–37
104478	**5e**	**Junction Box with Two Terminal Boards** (Without Base, Terminal Posts, Nuts, Washers, Tags, Hook Bolts and Clamps) (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 2-37a, 4-38 and 2-39)	C–9180–37
	5f	**Leaded Base and Junction Box** for 5″ Pipe ($5\frac{9}{16}$″ O.D.) With Three 12-Way Terminal Boards (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 3-37, 6-38, 2-39, 4-40, 2-41 and 1-46)	C–9180–37
	5g	**Leaded Base and Junction Box** for 6″ Pipe. With Three 12-Way Terminal Boards (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 3-37, 6-38, 2-39, 4-40, 2-41 and 1-46a)	C–9180–37
104290	**5h**	**Junction Box with Three Terminal Boards** (Without Base, Terminal Posts, Nuts, Washers, Tags, Hook Bolts and Clamps) (Inc. 1-30, 1-31, 1-32, 1-33, 1-34, 1-35, 1-36, 3-37a, 6-38 and 2-39)	C–9180–37
60096	**6**	**Half Socket** for Ref. 2 (Pat. No. 23336)	C–6425–3
10722	**7**	**Half Socket** for Ref. 3 (Pat. No. T-2790C)	C–6634–5
136946	**7a**	**Half Socket** for Ref. 3a (Pat. No. T-136946A)	C–6634–7
	8	**Bolt,** $\frac{5}{8}$″x8$\frac{3}{4}$″ Sq. Hd. S. with $\frac{5}{8}$″ Hex. Nut.	
	9	**Bolt,** $\frac{3}{4}$″x7″ Sq. Hd. S. with $\frac{3}{4}$″ Hex. Nut.	
	10	**Bolt,** $\frac{3}{4}$″x6$\frac{1}{2}$″ Sq. Hd. S. with $\frac{3}{4}$″ Hex. Nut for Ref. 3.	
	10a	**Bolt,** $\frac{3}{4}$″x6$\frac{1}{4}$″ Sq. Hd. S. with $\frac{3}{4}$″ Hex. Nut for Ref. 3a.	
214856	**11**	**Half Base with Junction Box** (Pat. No. 214856) for Refs. 4, 4a and 4b (Without Terminal Boards, Cover and Ventilators)	C–6634–23
216166	**11a**	**Half Base with Junction Box and Cover** (Without Terminal Boards and Ventilators)	C–6634–25

Clamp and Leaded Bases for Signals

Combined Base and Junction Box for 4" Pipe Post Will Be Found on Plate K-152

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
107059	**12**	**Half Base** for Refs. 4 and 4a (Pat. No. 107059)	C–6634–19
	13	**Cover** with Gasket Ref. 13a	C–6634–21
	13a	**Gasket,** ⅜" Sq. Packing 3'-2½" long.	
70109	**14**	**Ventilator Complete**	7318–57
107065	**15**	**Wing Nut Complete**	8331–83
7309	**16**	**Washer**	7826–12
	17	**Cotter,** ⅛"x⅞" S. (Tin Pl.).	
107474	**18**	**Terminal Board Complete,** 4-Way (Includes Terminal Blocks, Mounting Plate, Nuts, Washers and Connectors) (Inc. 1-19, 2-20, 4-21, 4-22, 24-23, 8-24 and 16-25	C–6634–22
108439	**18a**	**Terminal Board Complete,** 6-Way (Includes Terminal Blocks, Mounting Plate, Nuts, Washers and Connectors) (Inc. 1-19, 2-20a, 4-21, 6-22, 36-23, 12-24 and 24-25	C–6634–22
107473	**19**	**Mounting Plate Only,** for Refs. 18 and 18a	C–6634–22
107471	**20**	**Terminal Block with Terminal Posts** (4-Way) (Without Nuts and Washers)	9968–1255
107203	**20a**	**Terminal Block with Terminal Posts** (6-Way) (Without Nuts and Washers)	9968–1255
	21	**Machine Screw,** No. 14-24x⅝" Fil. Hd. S. (Tin Pl.) for attaching Terminal Block to Mounting Plate. (Not shown).	
47290	**22**	**Terminal Connector**	8064–305
29102	**23**	**Washer** for Terminal Post	7828–139
127260	**24**	**Nut** (Flat Hex.) for Terminal Post	8109–194
29101	**25**	**Nut** for Terminal Post	8109–193
	26	**Machine Screw,** No. 14-24x⅝" Fil. Hd. S. (Tin Pl.) with ¼" Pl. S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{16}$") (Tin Pl.) for attaching Ref. 18 or 18a to Ref. 11.	

Clamp and Leaded Bases for Signals

Combined Base and Junction Box for 4″ Pipe Post Will Be Found on Plate K-152

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	27	**Bolt,** 1″-8x7½″ Sq. Hd. S. (Cad. Pl.) with 1″ Hex. Nut (Cad. Pl.).	
	28	**Tap Bolt,** ⅜″x⅞″ Hex. Hd. (Cad. Pl.)	
62222	*29	**Washer** (.0375″)	7826–180
33010	*29a	**Washer** (.0625″)	7826–89
		*Use as required to obtain desired compression.	
	30	**Box** with Gasket Ref. 30a	C–9181–55
	30a	**Gasket, Jute Packing,** ½″ Sq. x 14½″ long.	
	31	**Cover** with Gasket Ref. 31a	C–9181–56
	31a	**Gasket, Jute Packing,** ⅜″ Sq. x 4′-2⅝″ long.	
134534	32	**Hinge Pin**	B–10213–1
177457	33	**Pin**	B–10213–1
104404	34	**Eye Bolt**	8034–233
210979	35	**Wing Nut**	8331–72
	36	**Rivet,** $\frac{3}{16}$″x⅝″ Rd. Hd. I.	
	37	**Terminal Board Complete** (Inc. 1-37a, 12-42, 12-44 and 12-45)	B–10364–106
104296	37a	**Terminal Board Only**	B–10364–106
	38	**Machine Screw,** No. 14-24x1¼″ Fil. Hd. Bz. (N.P.) with $\frac{3}{16}$″ S. Plate Washer (Tin Pl.) and ¼″ Pl. S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{16}$″) (Tin Pl.) For attaching Ref. 37 to Ref. 30.	
	39	**1″ C.I. Pipe Plug** (Not shown).	
104873	40	**Hook Bolt** with ¾″ Hex. Nut (Cad. Pl.)	7913–390
104294	41	**Clamp**	10914–944

Clamp and Leaded Bases for Signals

Combined Base and Junction Box for 4″ Pipe Post Will Be Found on Plate K-152

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	42	**Terminal Post** with Nuts and Washers (Inc. 1-42a, 1-43, 1-23, 2-25 and one ¼″ Pl. S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{16}$″) (Tin Pl.)	12451–
130593	42a	**Terminal Post Only**	8094–1192
29103	43	**Nut** (Flat Hex.)	8109–194
104297	44	**Tag**	8988–37
	45	**Wood Screw**, No. 4x⅜″ Rd. Hd. (Tin Pl.) for attaching Ref. 44 to Ref. 37.	
104293	46	**Base** (Leaded) for 5″ Pipe ($5\frac{9}{16}$″ O.D.) For Ground Mounting	C–6782–11
106144	46a	**Base** (Leaded) for 6″ Pipe. For Ground Mounting	C–6782–16

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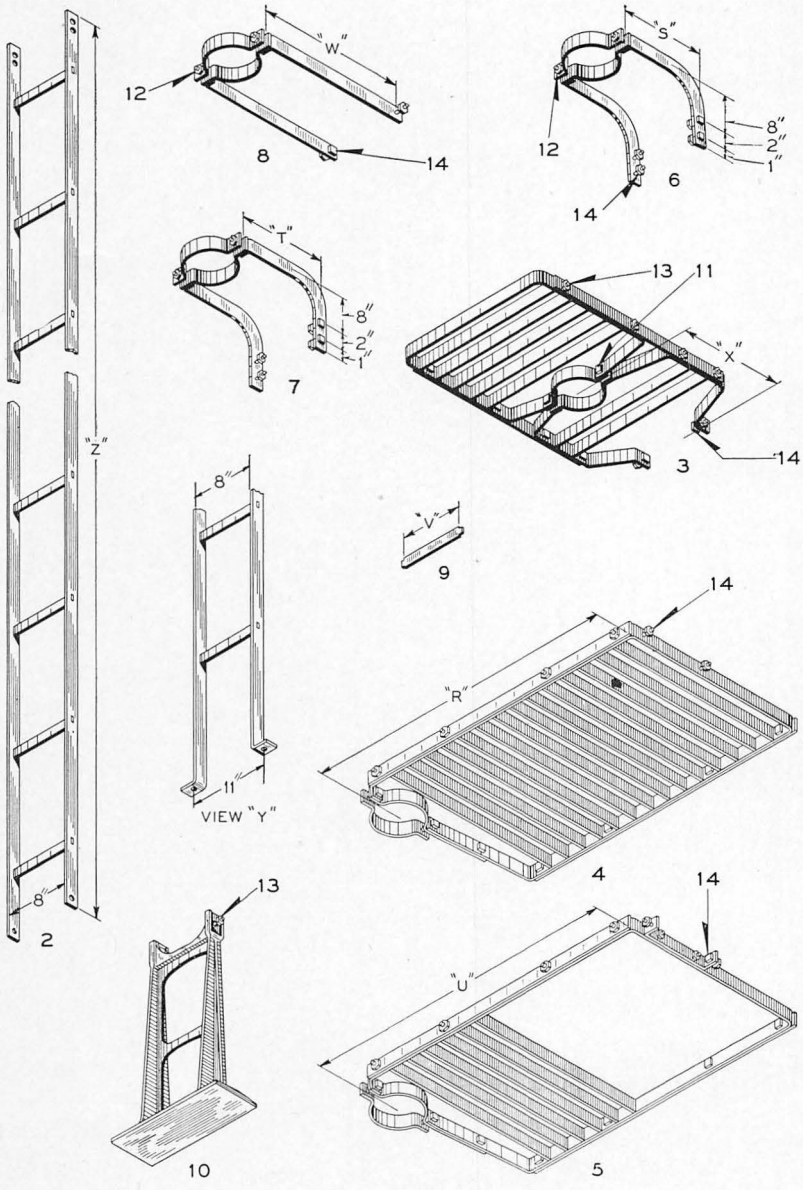

Ladder Details for Color Light Signals

Ladder Details for Color Light Signals

For complete Ladders refer to Plate showing complete assembly of Signal for which Ladder is desired.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	2	**Ladder** as shown (Orders should specify "Z" dimension)	B–10313–
	2a	**Ladder** with Foot per View "Y" (Orders should specify "Z" dimension)	B–10313–
	3	**Platform** for 5″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "X" dimension)	B–7501–
	3a	**Platform** for 5″ Casing with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "X" dimension)	B–7501–
	3b	**Platform** for 6″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "X" dimension)	B–7501–
	4	**Platform** for 5″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "R" dimension)	B–10313–
	4a	**Platform** for 5″ Casing with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "R" dimension)	B–10313–
	5	**Platform** for 5″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "U" dimension)	B–10313–
	5a	**Platform** for 5″ Casing with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "U" dimension)	B–10313–
	6	**Clamp Top** for 4″ Pipe with four ½″x1″ Sq. Hd. Bolts and Hex. Nuts (For sloping ladder) (Orders should specify "S" dimension)	B–7501–
	6a	**Clamp Top** for 5″ Casing with four ½″x1″ Sq. Hd. Bolts and Hex. Nuts (For sloping ladder) (Orders should specify "S" dimension)	B–7501–
	6b	**Clamp Top** for 5″ Pipe with four ½″x1″ Sq. Hd. Bolts and Hex. Nuts (For sloping ladder) (Orders should specify "S" dimension)	B–7501–

Ladder Details for Color Light Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	7	**Clamp Top** for 4″ Pipe with four ½″x1″ Sq. Hd. Bolts and Hex. Nuts (For straight ladder) (Orders should specify "T" dimension)	B–7501–
	7a	**Clamp Top** for 5″ Casing with four ½″x1″ Sq. Hd. Bolts and Hex. Nuts (For straight ladder) (Orders should specify "T" dimension)	B–7501–
	7b	**Clamp Top** for 5″ Pipe with four ½″x1″ Sq. Hd. Bolts and Hex. Nuts (For straight ladder) (Orders should specify "T" dimension)	B–7501–
	8	**Stay** for 4″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "W" dimension)	B–7501–
	8a	**Stay** for 5″ Casing with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "W" dimension)	B–7501–
	8b	**Stay** for 5″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "W" dimension)	B–7501–
	8c	**Stay** for 6″ Pipe with two ½″x1″ Sq. Hd. Bolts and Hex. Nuts (Orders should specify "W" dimension)	B–7501–
139	9	**Rung** for Ladders ("V" dimension 8″)	B–8365–1
63512	9a	**Rung** for Platforms ("V" dimension 19½″)	B–8365–50
141057	9b	**Rung** for Platforms ("V" dimension 22¾″)	B–8365–54
181370	10	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
59653	11	**Bolt,** ½″x2½″ Sq. Hd. with ½″ Hex. Nut	8280–81
36832	12	**Bolt,** ½″x2″ Sq. Hd. with ½″ Hex. Nut	8280–81
	13	**Bolt,** ½″x1¼″ Sq. Hd. with ½″ Hex. Nut.	
	14	**Bolt,** ½″x1″ Sq. Hd. with ½″ Hex. Nut.	

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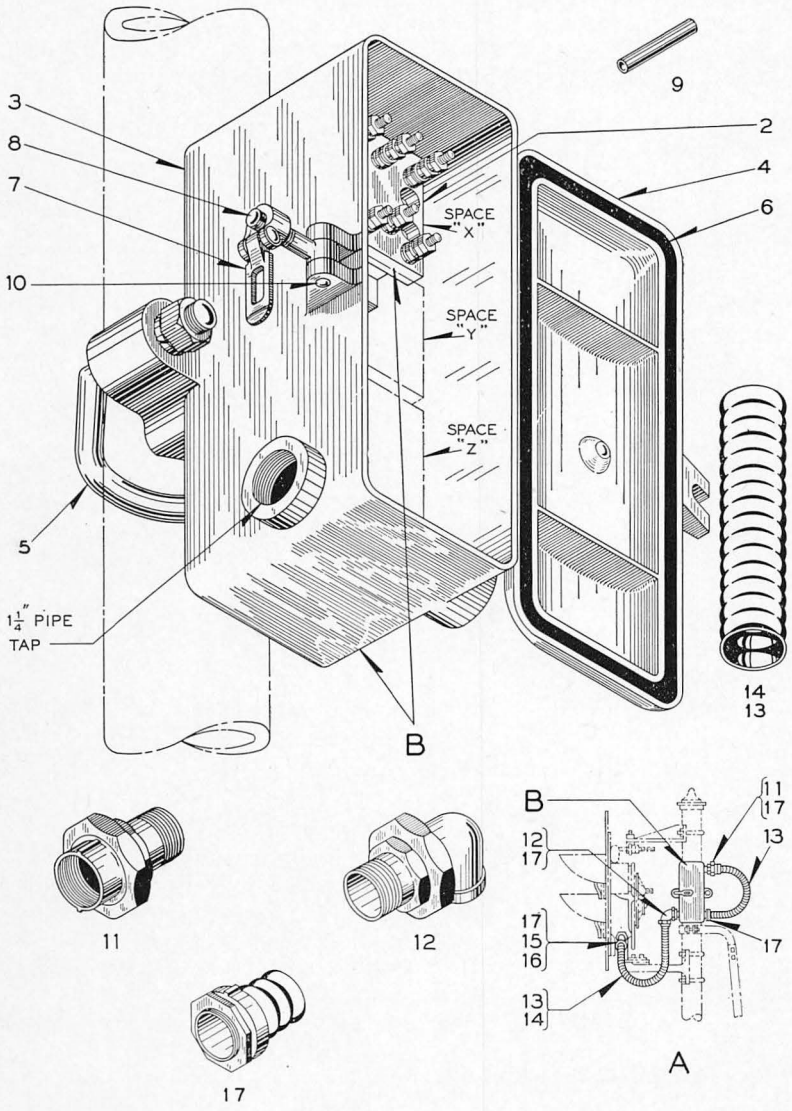

Transformer Box for Color Light Signals

Transformer Box for Color Light Signals

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**Transformer Box,** Ref..... Plate B-2590 with U-Bolt, Ref....., Conduit Refs..... and....., and Fittings. (Orders should specify the following: Box (Refs. B to Bb), U-Bolt (Refs. 5 to 5b) and Conduit (Refs. 13 and 14).....	B–10325–

Transformer Box with..... Transformers. (Orders should specify voltage and frequency of Transformers).

Piece	Ref.	Transformers in Spaces	Remarks	Drawing Reference
	B	"X"		C–7540–10
	Ba	"X" and "Y"		C–7540–10
	Bb	"X", "Y" and "Z"		C–7540–10

Piece	Ref.	Description	Drawing Reference
	2	**Transformer** (Orders should specify Voltage and Frequency desired).....	C–8605–5
127539	**3**	**Transformer Box Complete** without Transformer and U-Bolt (Inc. 1-3a, 1-5, 1-7, 1-8, 2-9 and 1-10)	C–7540–10
127538	**3a**	**Box Only,** for Ref. 3.....	C–8614–6
127537	**4**	**Door** with Gasket Ref. 6.....	C–8614–5
163538	**5**	**U-Bolt,** ¾″, with Hex. Nuts (Cad. Pl.) and ¾″ Pl. S. Lock Washers ($\frac{3}{16}$″x$\frac{3}{16}$″) (Cad. Pl.) for attaching Transformer Box to 4″ Pipe.....	8782–188
95838	**5a**	**U-Bolt,** ¾″, with Hex. Nuts (Cad. Pl.) and ¾″ Pl. S. Lock Washers ($\frac{3}{16}$″x$\frac{3}{16}$″) (Cad. Pl.) for attaching Transformer Box to 5″ Pipe or Casing.....	8782–159

Transformer Box for Color Light Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	5b	**U-Bolt,** ¾″, with Hex. Nuts (Cad. Pl.) and ¾″ Pl. S. Lock Washers (3/16″x3/16″) (Cad. Pl.) for attaching Transformer Box to 6″ Pipe	8782–
	6	**Gasket,** ⅜″x⅜″x3′-2½″ long, Flax Packing.	
72832	**7**	**Hasp Complete**	8299–66
64973	**8**	**Eye Bolt**	8034–64
50679	**9**	**Pin,** ⅜″x2½″ for attaching Door to Case	B–10207–1
37075	**10**	**Pin,** ⅜″x1⅞″ for attaching Eye Bolt to Case	B–10207–1
	11	**Union,** 1¼″ M.I. Galv. Male and Female.	
	12	**Union Ell,** 1¼″ M.I. Galv. Male.	
	13	**Conduit,** 1¼″ Galv. Single Strip Flex. S. 1¼″ I.D. x 1.665″ O.D., 2′-0″ long. For wires going from Box to Pole and from Box to Signal Unit when Box is mounted below the top of the ladder.	
	14	**Conduit,** 1¼″ Galv. Single Strip Flex. S. 1¼″ I.D. x 1.665″ O.D., 2′8″ long. For wires going from Box to Signal Unit when Box is mounted above top of ladder as shown or when Box is mounted on back of Pipe Post.	
	15	**Street Ell,** 1¼″ 45° Std. (Galv.).	
	16	**Reducing Bushing,** 2″ to 1¼″ (Galv.)	
	17	**Straight Box Connector,** 1¼″ M.I. Galv. for Refs. 13 and 14.	

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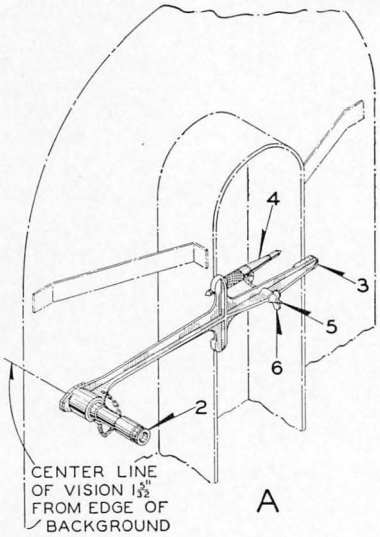
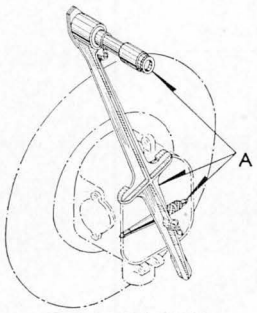
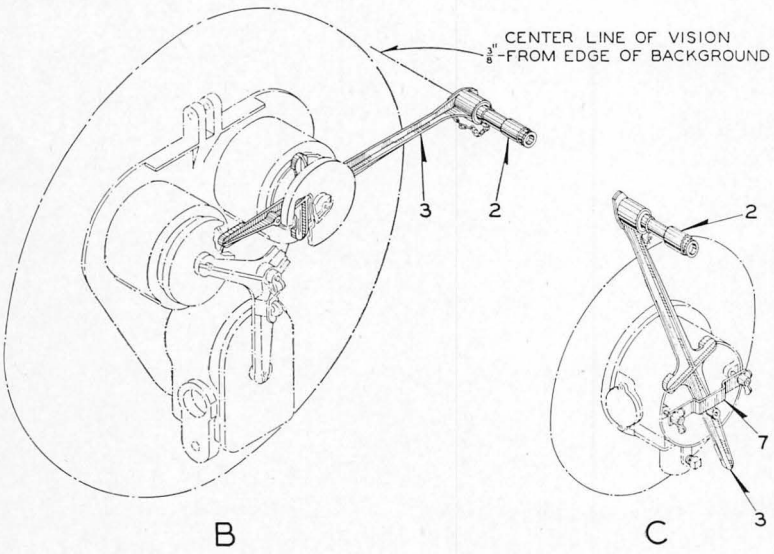






Sighting Telescope With Mounting Fittings for Aligning Styles "L", "P-2", "R-2" and "TR-2" Color Light Signals and Styles "R-2" and "HC-33" Marker Lights

Sighting Telescope With Mounting Fittings for Aligning Styles "L", "P-2", "R-2" and "TR-2" Color Light Signals and Styles "R-2" and "HC-33" Marker Lights

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**Sighting Telescope** with mounting fittings for aligning vertical Styles "L", "P-2" and "R-2" Signals and Style "R-2" Marker Light (Inc. 1-2, 1-3, 1-4, 1-5 and 1-6)	C–9003–2
	B	**Sighting Telescope** with mounting fittings for aligning triangular Style "TR-2" Signal not having Built-in Sighting device (Inc. 1-2 and 1-3)	C–9003–2
	C	**Sighting Telescope** with mounting fittings for aligning Style "HC-33" Marker Lights (Inc. 1-2, 1-3 and 1-7)	C–9003–2
156953	2	**Sighting Telescope Complete** for Refs. A, B and C	C–9003–5
119507	3	**Bracket** with Pins, Chain and Snap	C–9003–2
121058	4	**Brace Complete** for Ref. A	C–9003–3
119509	5	**Bolt,** ¼″x2¾″ for Ref. A	C–9003–2
119689	6	**Wing Nut,** ¼″-20 for Ref. A	C–9003–1
138552	7	**Clamp Plate** with Two Wing Nuts for Ref. C	9999–387

MEMORANDA

UNION SWITCH & SIGNAL CO.

ONE, TWO OR THREE-COLOR A. C. AND D. C. STYLE "P-2" AND "TP-2" SIGNAL UNITS

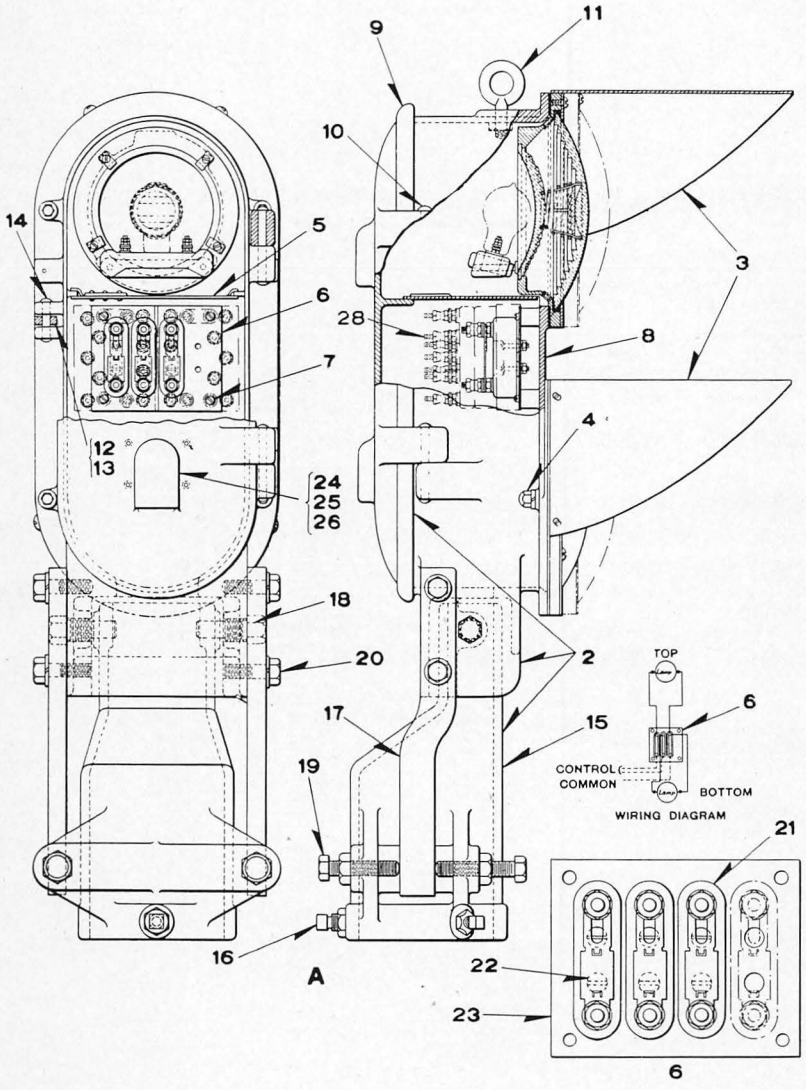
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	17	**Bolt 3/8"x3/4"** Hex. Hd. (Cad. Pl.) with Nut Ref. 15a and Washer Ref. 16a.	
54865	**18**	**"U" Bolt, 3/4"** with Hex. Nuts for attaching Refs. 2 and 7 to 4" Pipe.....	8782–102
43931	**18a**	**"U" Bolt, 3/4"** with Hex. Nuts for attaching Refs. 2 and 7 to 5" Pipe or Casing.....	8782–66
44199	**18b**	**"U" Bolt, 3/4"** with Hex. Nuts for attaching Refs. 2 and 7 to 6" Pipe.....	8782–69
	19	**Tap Bolt 3/8"x1"** Hex. Hd. with 3/8" Plain Lock Washer and Std. 3/8" Plate Washer (Cad. Pl.).	
	20	**Bolt 3/8"x1 1/2"** Hex. Hd. (Cad. Pl.) with Nut Ref. 15a and 3/8" Plain Lock Washer (5/32"x3/32") Cad. Pl.	

PLATE B-2740

UNION SWITCH & SIGNAL CO.



TWO-COLOR STYLE "P-2" SIGNAL UNIT

UNION SWITCH & SIGNAL CO.

TWO-COLOR STYLE "P-2" SIGNAL UNITS D. C. (OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS)

Backlight can be furnished on Two-Color Signals only when Individual Transformers are not used, but is not included unless mentioned in order.

Unless otherwise specified all Signal Units will be furnished with 10-Volt, 18-Watt double filament Lamps.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Two-Color Style "P-2" Signal Unit without Backgrounds

Piece	Ref.	Top Light	Bottom Light	With Socket for	Remarks	Drawing Reference
	A	Green	Red	5″ Pipe or Casing	D.C. or A.C. without Individual Transformers	C–8900–61
	Aa	Green	Red	5″ Pipe or Casing	A.C. with Individual Transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900
142698	Ab	Yellow	Red	5″ Pipe or Casing	D.C. or A.C. without Individual Transformers	C–8900–61
	Ac	Yellow	Red	5″ Pipe or Casing	A.C. with Individual Transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900

Piece	Ref.	Description	Drawing Reference
142697	2	**Case and Cover** with Socket for 5″ Pipe or Casing for Style "P-2" Two-Color Light Signal	C–8900–60
	3	**Lens Unit** for Style "P-2" Light Signal (When ordering refer to Plate B-2785)	C–8901–35
	4	**Tap Bolt** $\frac{3}{8}$″x$1\frac{1}{8}$″ Hex. Hd. with $\frac{3}{8}$″ Plain Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″) Cad. Pl.	
80777	5	**Partition**	C–8901–6
129345	6	**Terminal Board** with three Terminal Blocks	9968–684

UNION SWITCH & SIGNAL CO.

TWO-COLOR STYLE "P-2" SIGNAL UNITS D. C. (OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	7	**Machine Screw No. 14-24x1/2″** Fil. Hd. S. (Cad. Pl.) for attaching Ref. 6 to Case.	
142696	8	**Case** only for Style "P-2" Two-Color Light Signal...	C–8901–80
89925	9	**Door,** with Staple, Packing and Ventilators for Style "P-2" Two-Color Light Signal.....	C–8901–11
49634	10	**Pin 3/8″x3 3/8″** for fastening Door to Case.....	B–10207–1
31092	11	**Eye Bolt** with 1/2″ Hex. Nut (Cad. Pl.).....	8034–104
72832	12	**Hasp**.....	8299–66
50126	13	**Eye Bolt** for Ref. 12.....	8034–64
37075	14	**Pin 3/8″x1 7/8″** for attaching Ref. 13 to Case.....	B–10207–1
129250	15	**Pipe Socket** for 5″ Pipe or Casing for Style "P-2" Light Signal.....	C–8901–55
	16	**Set Screw 5/8″-11x1 1/2″** Flat Point I. with 5/8″ Hex. Jam Nut (Cad. Pl.) for 5″ Pipe.	
129448	17	**Adjusting Bar**.....	C–8901–43
149008	18	**Pivot Screw**.....	8378–351
	19	**Tap Bolt 5/8″-11x3 1/4″** Hex. Hd. with 5/8″ Hex. Jam Nut (Cad. Pl.).	
	20	**Cap Screw 5/8″-11x1 3/4″** Hex. Hd. with 5/8″ Plain Lock Washer (7/32″x1/8″) Cad. Pl.	
116846	21	**Terminal Block** with Marker for Ref. 6.....	9968–625
	22	**Machine Screw No. 12-28x7/8″** Rd. Hd. S. (Cad. Pl.) with Hex. Nut Ref. 22a and 1/4″ Plain Lock Washer (1/16″x1/16″) Cad. Pl. for attaching Ref. 21 to Ref. 23.	

UNION SWITCH & SIGNAL CO.

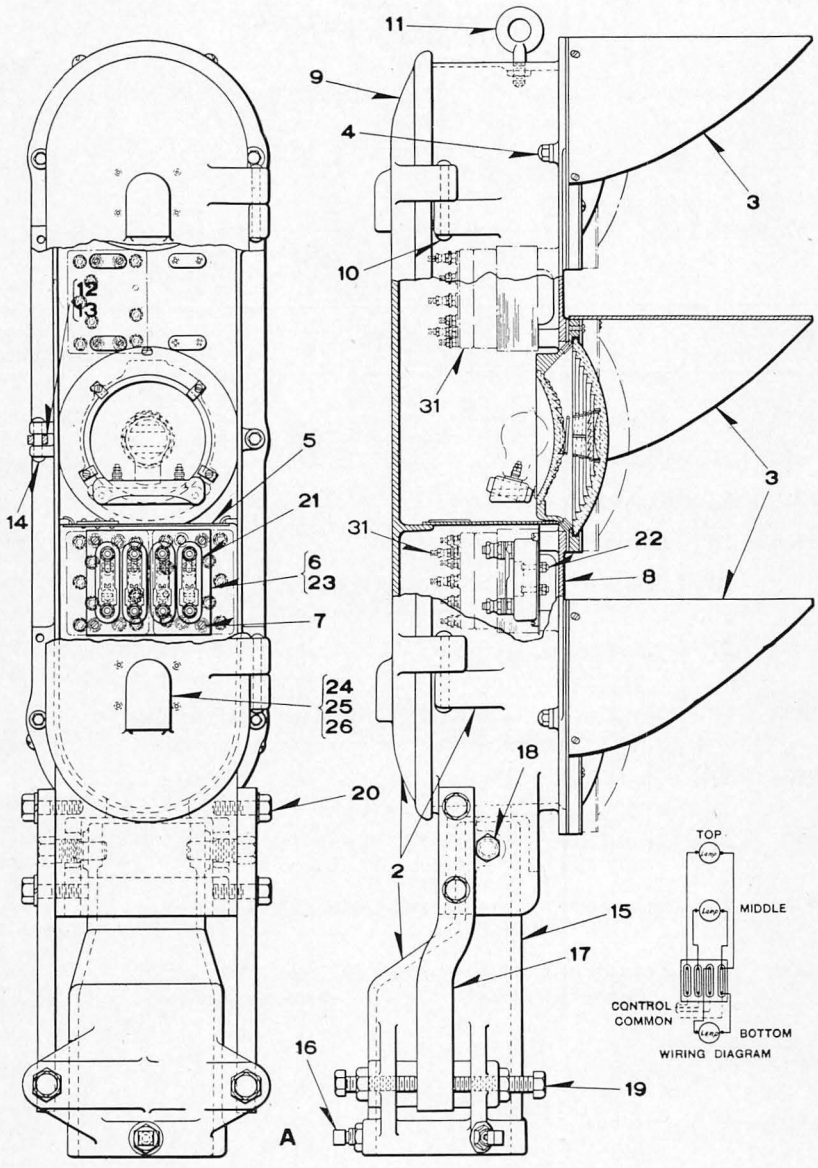
TWO-COLOR STYLE "P-2" SIGNAL UNITS D. C. (OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
35216	**22a**	**Hex. Nut** for Ref. 22	8265–121
129341	**23**	**Plate** only for Ref. 6	9999–297
21918	**24**	**Holder** for Ventilator	B–7318–5
21919	**25**	**Screen** for Ventilator	B–7318–5
	26	**Machine Screw No. 10-30x1/4″** Rd. Hd. S. (Cad. Pl.) for attaching Refs. 24 and 25 to Door.	
	27	**Flax Packing 3/8″ Square, 4′ 1½″ long** for Door (Not shown).	
131335	**28**	**Transformer, 110-Volts, 25-Cycles** (For details refer to Plate F-6005)	C–8605–5
129804	**28a**	**Transformer, 110-Volts, 50/100-Cycles** (For details refer to Plate F-6003)	C–8605–5
140877	**28b**	**Transformer, 110-Volts, 50/100 Cycles** (For details refer to Plate F-6003)	C–8605–5
130936	**28c**	**Transformer, 110-Volts, 60-Cycles** (For details refer to Plate F-6003)	C–8605–14
133253	**28d**	**Transformer, 110-Volts, 60/100-Cycles** (For details refer to Plate F-6003)	C–8605–14

PLATE B-2745

UNION SWITCH & SIGNAL CO.



THREE-COLOR STYLE "P-2" SIGNAL UNITS

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "P-2" SIGNAL UNITS, (WITHOUT BACKLIGHT) D. C. OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS

For Style "P-2" Three-Color Signal Units with Backlight Refer to Plate B-2750

Unless otherwise specified all Signal Units will be furnished with 10-Volt, 18-Watt double filament Lamps.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Three-Color Style "P-2" Signal Unit Without Backgrounds

Piece	Ref.	Top Light	Middle Light	Bottom Light	With Socket for	Remarks	Drawing Reference
129322	**A**	Green	Yellow	Red	5″ Pipe or Casing	D.C. or A.C. without individual transformers	C–8900–29
	Aa	Green	Yellow	Red	5″ Pipe or Casing	A.C. with individual transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900
132283	**Ab**	Green	Yellow	Red	4″ Pipe	D.C. or A.C. without individual transformers	C–8900–29
	Ac	Green	Yellow	Red	4″ Pipe	A.C. with individual transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900
132285	**Ad**	Blank	Green	Red	4″ Pipe	D.C. or A.C. without individual transformers	C–8900–29
	Ae	Blank	Green	Red	4″ Pipe	A.C. with individual transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900
132286	**Af**	Green	Yellow	Blank	4″ Pipe	D.C. or A.C. without individual transformers	C–8900–29
	Ag	Green	Yellow	Blank	4″ Pipe	A.C. with individual transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "P-2" SIGNAL UNITS, (WITHOUT BACKLIGHT) D. C. OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS (Continued)

For Style "P-2" Three-Color Signal Units with Backlight Refer to Plate B-2750

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
132282	**2**	**Case and Cover** with Socket for 4″ Pipe for Style "P-2" Three-Color Light Signal	C–8900–29
129423	**2a**	**Case and Cover** with Socket for 5″ Pipe or Casing for Style "P-2" Three-Color Light Signal	C–8900–29
	3	**Lens Unit** for Style "P-2" Signal (When ordering refer to Plate B-2785)	C–8901–35
	4	**Tap Bolt ⅜″x1⅛″** Hex. Hd. with ⅜″ Plain Lock Washer (⅝″x⅜″) Cad. Pl.	
80777	**5**	**Partition**	C–8901–6
129344	**6**	**Terminal Board** with four Terminal Blocks	9968–684
	7	**Machine Screw No. 14-24x⅜″** Fil. Hd. S. (Cad. Pl.) for attaching Ref. 6 to Case.	
129422	**8**	Case only for Style "P-2" Three-Color Light Signal	C–8901–56
80778	**9**	**Door** with Staple, Packing and Ventilators for Style "P-2" Three-Color Light Signal	C–8901–4
49634	**10**	**Pin ⅜″x3⅜″** for fastening Door to Case	B–10207–1
31092	**11**	**Eye Bolt** with ½″ Hex. Nut (Cad. Pl.)	8034–104
72832	**12**	**Hasp**	8299–66
50126	**13**	**Eye Bolt** for Ref. 12	8034–64
37075	**14**	**Pin ⅜″x1⅞″** for attaching Ref. 13 to Case	B–10207–1
129250	**15**	**Pipe Socket** for 5″ Pipe or Casing for Style "P-2" Light Signal	C–8901–55
132281	**15a**	**Pipe Socket** for 4″ Pipe for Style "P-2" Light Signal	C–8901–67

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "P-2" SIGNAL UNITS, (WITHOUT BACKLIGHT) D. C. OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS

(Continued)

For Style "P-2" Three-Color Signal Units with Backlight Refer to Plate B-2750

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	16	**Set Screw 5/8"-11x1 1/2"** Flat Point I. with 5/8" Hex. Jam Nut (Cad. Pl.) for 5" Pipe.	
	16a	**Set Screw 5/8"-11x2"** Flat Point I. with 5/8" Hex. Jam Nut (Cad. Pl.) for 4" Pipe.	
129448	17	**Adjusting Bar**	C–8901–43
149008	18	**Pivot Screw**	8378–351
	19	**Tap Bolt 5/8"-11x3 1/4"** Hex. Hd. with 5/8" Hex. Jam Nut (Cad. Pl.).	
	20	**Cap Screw 5/8"-11x1 3/4"** Hex. Hd. with 5/8" Plain Lock Washer (7/32"x1 5/8") Cad. Pl.	
116846	21	**Terminal Block** with Marker for Ref. 6	9968–625
	22	**Machine Screw No. 12-28x7/8"** Rd. Hd. S. (Cad. Pl.) with Hex. Nut Ref. 22a and 1/4" Plain Lock Washer (1/16"x1/16") Cad. Pl. for attaching Ref. 21 to Ref. 23.	
35216	22a	**Hex. Nut** for Ref. 22	8265–121
129341	23	**Plate** only for Ref. 6	9999–297
21918	24	**Holder** for Ventilator	B–7318–5
21919	25	**Screen** for Ventilator	B–7318–5
	26	**Machine Screw No. 10-30x1/4"** Rd. Hd. S. (Cad. Pl.) for attaching Refs. 24 and 25 to Door.	
	27	**Flax Packing 3/8" Square 6' 1" long** for Door (Not Shown).	
95407	28	**Disc** (Used for blanking out) Not shown	B–7632–41

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "P-2" SIGNAL UNITS, (WITHOUT BACKLIGHT) D. C. OR A. C. WITHOUT INDIVIDUAL TRANSFORMERS (Continued)

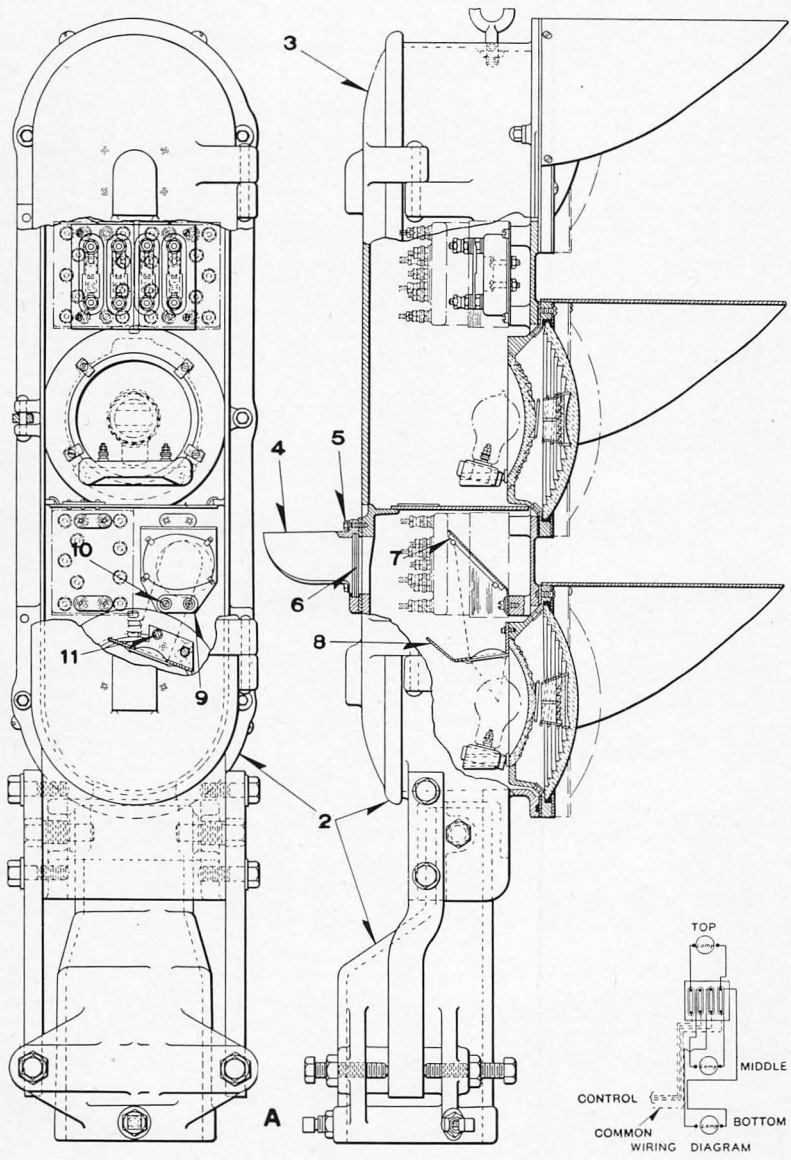
For Style "P-2" Three-Color Signal Units with Backlight Refer to Plate B-2750

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
65898	**29**	**Hood** (Used for blanking out) Not shown	C–8842–15
	30	**Machine Screw No. 10-30x¼″** Rd. Hd. S. (Cad. Pl.) for use with Refs. 28 and 29.	
142123	**31**	**Transformer, 55-Volts, 25-Cycles** (For details refer to Plate F-6005)	C–8605–5
131335	**31a**	**Transformer, 110-Volts, 25-Cycles** (For details refer to Plate F-6005)	C–8605–5
129804	**31b**	**Transformer, 110-Volts, 50/100-Cycles** (For details refer to Plate F-6003)	C–8605–5
140877	**31c**	**Transformer, 110-Volts, 50/100-Cycles** (For details refer to Plate F-6003)	C–8605–5

PLATE B-2750

UNION SWITCH & SIGNAL CO.



THREE-COLOR STYLE "P-2" SIGNAL UNIT WITH BACKLIGHT

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "P-2" A. C. AND D. C. SIGNAL UNIT WITH BACKLIGHT

For Style "P-2" Three-Color Signal Units Without Backlight Refer to Plate B-2745.

Unless otherwise specified all Signal Units will be furnished with 10-Volt, 18-Watt double filament Lamps.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Three-Color Style "P-2" Signal Unit with Backlight, without backgrounds

Piece	Ref.	Top Light	Middle Light	Bottom Light	With Socket for	Remarks	Drawing Reference
135214	**A**	Green	Yellow	Red	5″ Pipe or Casing	D.C. or A.C. without individual transformers	C–8900–47
	Aa	Green	Yellow	Red	5″ Pipe or Casing	A.C. with individual transformers as shown in dot and dash lines (Orders should specify voltage and frequency)	C–8900

Piece	Ref.	Description	Drawing Reference
135212	**2**	**Case and Cover** with Socket for 5″ Pipe or Casing for Style "P-2" Three-Color Light Signal arranged for Backlight	C–8900–46
116415	**3**	**Door,** with Staple, Packing and Ventilators for Style "P-2" Three-Color Light Signal arranged for Backlight	C–8901–33
116426	**4**	**Hood** for Backlight	C–8901–33
	5	**Tap Bolt** ¼″-20x¾″ Hex. Hd. with ¼″ Plain Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″) Cad. Pl. for attaching Ref. 4 to Door.	
116348	**6**	**Roundel** for Backlight	8468–33
116445	**7**	**Reflector Support** with Reflector for Backlight	C–8901–34
116443	**8**	**Backlight Lens Support** with Lens	C–8901–34

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "P-2" A. C. AND D. C. SIGNAL UNIT WITH BACKLIGHT

(Continued)

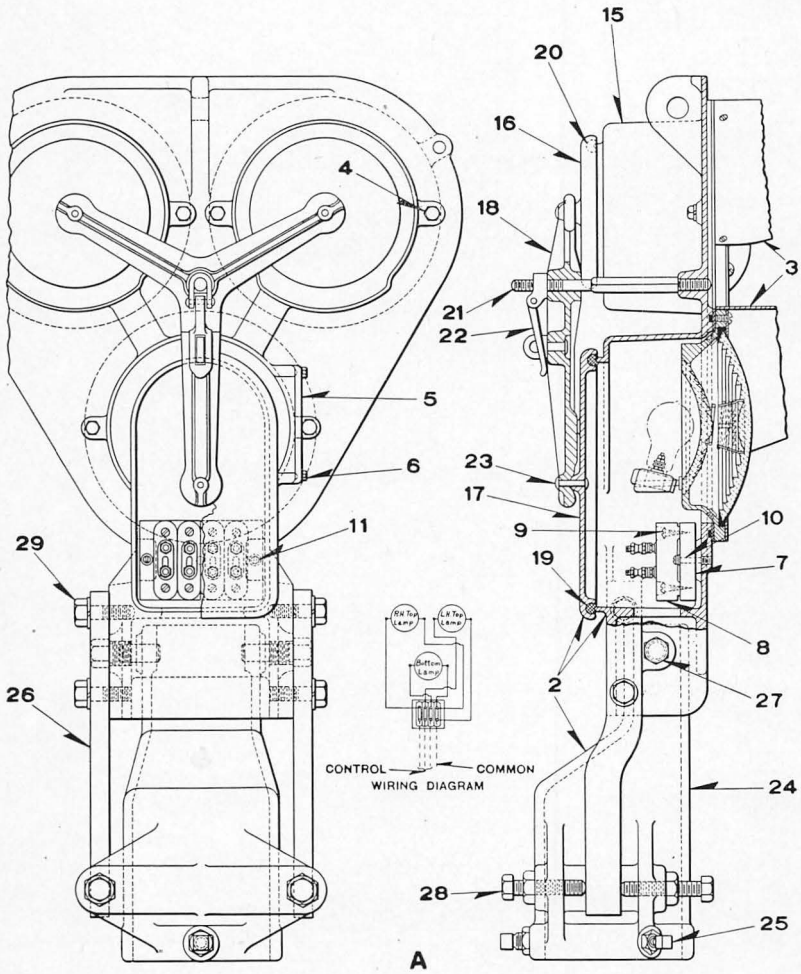
For Style "P-2" Three-Color Signal Units Without Backlight Refer to Plate B-2745.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
116440	**9**	**Washer** for Reflector.....	11893–144
	10	**Machine Screw No. 14-24x1/2″** Fil. Hd. S. with 1/4″ Plain Lock Washer (1/16″x1/16″) Cad. Pl.	
	11	**Machine Screw No. 10-30x3/8″** Fil. Hd. S. with No. 10 Plain Lock Washer (1/8″x3/64″) Cad. Pl.	
		Note:—For detail parts not shown on this Plate refer to Plate B-2745.	

PLATE B-2780

UNION SWITCH & SIGNAL CO.



THREE-COLOR STYLE "TP-2" SIGNAL UNITS

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "TP-2" TRIANGULAR SIGNAL UNITS

Unless otherwise specified all Signal Units will be furnished with 10-Volt, 18-Watt double filament Lamps.

Backlight can be furnished on bottom light of all signals but is not included unless mentioned in order.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Three-Color Style "TP-2" Signal Unit D. C. or A. C. Without Individual Transformers (Without Background)

Piece	Ref.	L. H. Top Light	R. H. Top Light	Bottom Light	With Socket For	Remarks	Drawing Reference
133662	A	Green	Yellow	Red	5″ Pipe or Casing		C–8900–43
134090	Aa	Blank	Yellow	Red	5″ Pipe or Casing		C–8900–43

Piece	Ref.	Description	Drawing Reference
133661	2	**Case and Cover** with Socket for 5″ Pipe or Casing for Style "TP-2" Triangular Three-Color Light Signals	C–8900–42
	3	**Lens Unit** for Style "TP-2" Light Signal (When ordering refer to Plate B-2785)	C–8901–35
	4	**Tap Bolt 3/8″-16x1 3/8″** Hex. Hd. with 3/8″ Plain Lock Washer (5/32″x3/32″) Cad. Pl.	
122112	5	**Backlight Cover**	C–9011–3
	6	**Tap Bolt 1/4″-20x3/4″** Hex. Hd. for attaching Ref. 5 to Case.	
122071	7	**Terminal Board** only	9968–647
114167	8	**Terminal Block** only	9968–629
	9	**Wood Screw No. 12x1″** Rd. Hd. S. (Cad. Pl.).	
	10	**Machine Screw No. 14-24x1 1/4″** Fil. Hd. S. (Cad. Pl.) with Washer Ref. 10a.	

UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "TP-2" TRIANGULAR SIGNAL UNITS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
84	10a	**Washer** only for Ref. 10	7828–6
	11	**Machine Screw No. 14-24x1/2″** Fil. Hd. S. (Cad. Pl.) used to Plug holes when Terminal Board is not used.	
95407	12	**Disc** (Used for blanking out) Not shown	B–7632–41
65898	13	**Hood** (Used for blanking out) Not shown	C–8842–15
	14	**Machine Screw No. 10-30x1/4″** Rd .Hd. S. (Cad. Pl.) for use with Refs. 12 and 13.	
133659	15	**Case** only for Style "TP-2" Triangular Light Signals	C–9011–9
121411	16	**Top Cover**	C–9011–3
121410	17	**Bottom Cover**	C–9011–3
122207	18	**Door Clamp**	C–9011–2
	19	**Flax Packing 3/8″ Square 2′ 6″ long** for Bottom Cover.	
	20	**Flax Packing 3/8″ Square 19″ long** for Top Cover.	
122070	21	**Stud** only	8071–167
72832	22	**Hasp**	8299–66
	23	**Rivet 1/4″x1 1/2″** Rd. Hd. I.	
129250	24	**Pipe Socket** for 5″ Pipe or Casing for Light Signals	C–8901–55
	25	**Set Screw 5/8″-11x1 1/2″** Flat Point I. with 5/8″ Hex. Jam Nut (Cad. Pl.) for 5″ Pipe.	

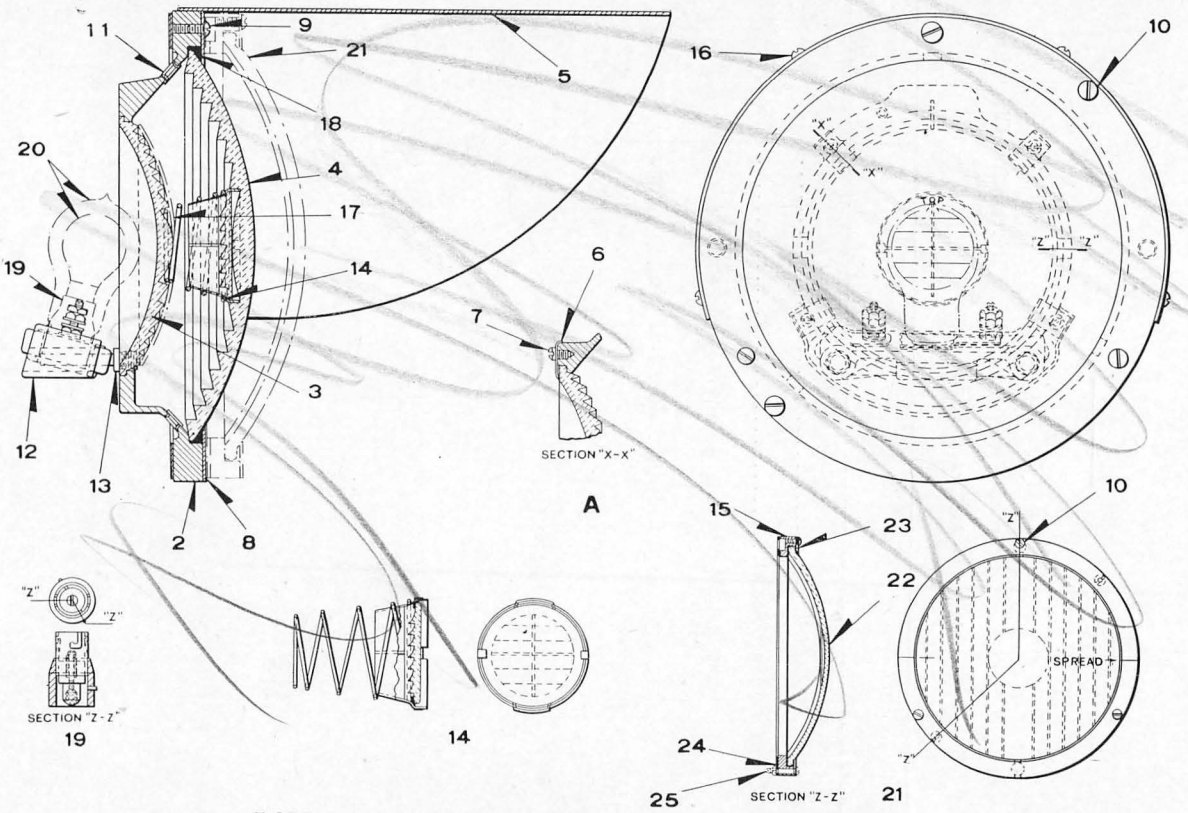
UNION SWITCH & SIGNAL CO.

THREE-COLOR STYLE "TP-2" TRIANGULAR SIGNAL UNITS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
129448	**26**	**Adjusting Bar**	C–8901–43
149008	**27**	**Pivot Screw**	8378–351
	28	**Tap Bolt 5/8"-11x3 1/4"** Hex. Hd. with 5/8" Hex. Jam Nut (Cad. Pl.).	
	29	**Cap Screw 5/8"-11x1 3/4"** Hex. Hd. with 5/8" Plain Lock Washer (7/32"x1 1/8") Cad. Pl.	



LAMP UNIT ASSEMBLY FOR STYLE "P-2" AND "TP-2"
LIGHT SIGNAL UNITS

Section
B

Plates B-2800 to B-2860, Inc.

SIGNALS

Color Light
Searchlight Signals

Union Switch & Signal Co.
Swissvale, Pa.

3-29

Printed in U.S.A.

SEARCHLIGHT TYPE COLOR LIGHT SIGNALS

GENERAL INFORMATION AND ORDERING INSTRUCTIONS

Ordering References

In the catalog section following, an effort has been made to give ordering references for complete assemblies and details of such types of searchlight signals as have already been supplied.

In order to obtain apparatus with the least possible delay it is very important that as much information as possible be included in your order. We suggest, therefore, that your orders include the following:

1. Kind of Signal: High or Dwarf
2. Type of mounting (Side or front of Mast) (Front of Mast mounting can be applied at top of Mast only to allow opening of door).
3. Mast: diameter of Pipe—A.R.A. Base or Mechanism Case.
4. Size of Lens: 8 3/8" Diam. furnished unless otherwise specified for High Signals (10 1/2" Diam. Lens available; special deflecting cover glasses or Spreadlite Lens for curved track can also be furnished).
5. Distance from base of mast to center of Lens on High Signals, also distance between lenses on 2 and 3 Arm Signals.
6. Dwarf Signals: 6 3/8" or 8 3/8" Lens
7. Arrangement of Colors
8. Voltage of battery or other power available.
9. With or without flexible conduit.
10. With or without Marker.
11. Mechanism: with or without Contacts.

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SEARCHLIGHT SIGNALS

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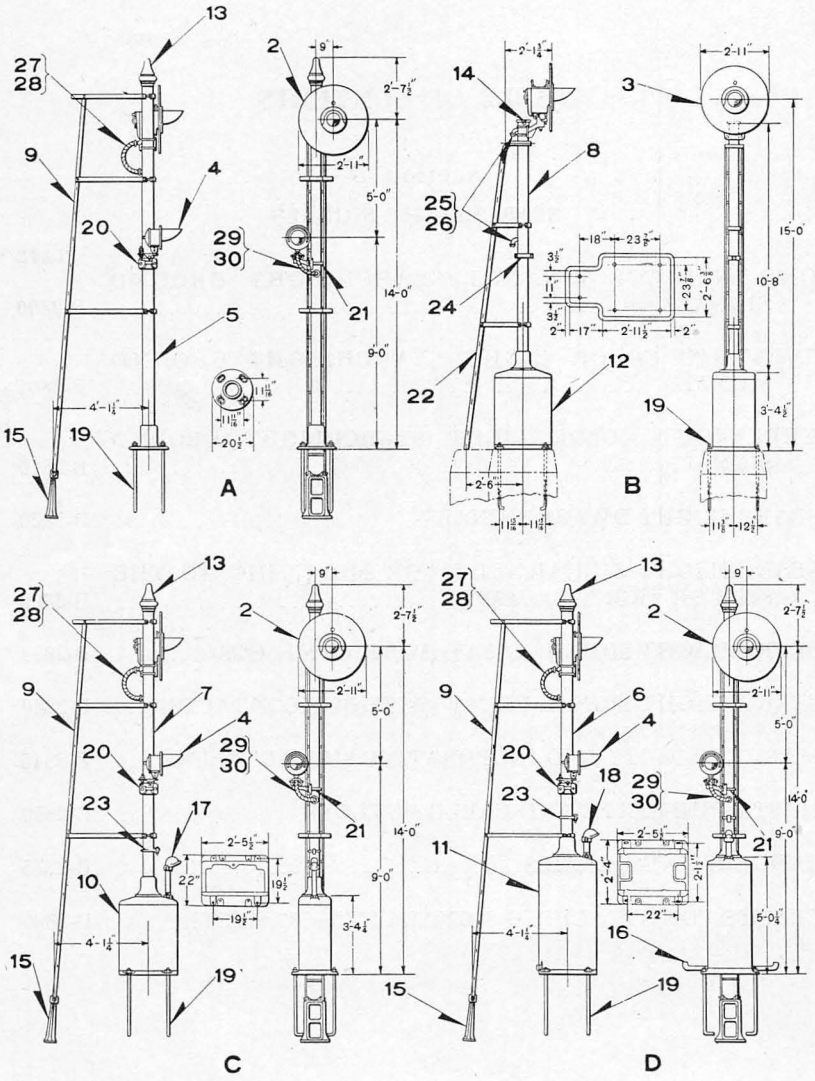
CLAMPS FOR ATTACHING SIGNAL UNITS TO MAST	B-2860

PLATE B-2800

UNION SWITCH & SIGNAL COMPANY



ONE-UNIT COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

UNION SWITCH & SIGNAL COMPANY

ONE-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

Unless otherwise specified, signals will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation. If signals of different dimensions than those shown are desired orders should so state.

Voltage of lamps must be specified. (Single contact 8-volt, 10-watt or 11-volt, 11-watt lamps are usually employed, but other special lamps may be furnished).

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
149997	**A**	**One-Unit, and Marker, Color Light, Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Foundation Bolts and Relay with Contacts**	B–12609–6
152850	**B**	**One-Unit, Color Light, Searchlight Ground Signal with 8⅜″ Lens, Instrument Case, Ladder, 5″ Casing, Foundation Bolts and Relay without Contacts**	B–12609–14
150122	**C**	**One-Unit, and Marker, Color Light, Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Instrument Case, Cable Outlet, Foundation Bolts and Relay with Contacts**	B–12609–7
149966	**D**	**One-Unit, and Marker Color Light, Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Instrument Case, Cable Outlet, Foundation Bolts and Relay with Contacts**	B–12609–5
145415	**2**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Pipe** (For details refer to Ref. Bd, Plate B-2825)	C–9104–2
145415	**2a**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Casing** (For details refer to Ref. Bc, Plate B-2825)	C–9104–2
145415	**2b**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 6″ Pipe** (For details refer to Ref. Be, Plate B-2825)	C–9104–2
	3	**D. C. Color Light Searchlight Signal with Relay without Contacts, Background and U-Bolts for attaching to 5″ Casing** (For details refer to Ref. A, Plate B-2825)	C–9104–3

UNION SWITCH & SIGNAL COMPANY

ONE-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	3a	**D. C. Color Light Searchlight Signal with Relay without Contacts, Background and U-Bolts for attaching to 5″ Pipe** (For details refer to Ref. Aa, Plate B-2825)	C–9104–3
	3b	**D. C. Color Light Searchlight Signal with Relay without Contacts, Background and U-Bolts for attaching to 6″ Pipe** (For details refer to Ref. Ab, Plate B-2825)	C–9104–3
149921	4	**Marker Light (Lunar White) with Hood and 12″ Diam. Background** (For details refer to Ref. A, Plate B-2845)	C–8965–33
149996	5	**Mast, 5″ Pipe with Base, 15′ 10½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–155
149953	6	**Mast, 5″ Pipe with Base, 10′ 10½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–154
150121	7	**Mast, 5″ Pipe with Base, 12′ 6½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–154
146633	8	**Mast, 5″ Casing with Base, 10′ 8″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–154
149962	9	**Ladder with Platform, Handrail and Braces, 16′ 3″ long,** for **Refs. A, C** and **D** (For details refer to Plate B-2855)	B–10313–428
152377	10	**Instrument Case for C** (Orders must specify Case required referring to Section "L" Catalog)	C–7589–24
	11	**Instrument Case for D** (Orders must specify Case required referring to Section "L" Catalog)	C–7589–38
152460	12	**Instrument Case for B** (For details refer to Plate L-1137)	C–7589–51

UNION SWITCH & SIGNAL COMPANY

ONE-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
137792	**13**	**Pinnacle with Set Screw**	8121–44
147427	**14**	**Pipe Cap,** with two ⅜″-16x¾″ Hex. Hd. Tap Bolts (Cad. Pl.)	B–9931–5
62563	**15**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
120743	**16**	**Door Stop with Supports**	B–12507–1
152373	**17**	**Cable Outlet for 1½″ Pipe,** with Pipe 16½″ long and fittings (For details refer to Plate B-2850)	B–10342–46
	18	**Cable Outlet for 2½″ Pipe,** with Pipe 12″ long and fittings (For details refer to Plate B-2850)	B–10342–8
10276	**19**	**Foundation Bolt 1″x3′ 0″** with Hex. Nut and Plate Washer	7913–54
149919	**20**	**Supporting Bracket** for 5″ and 6″ pipe	C–8964–65
97657	**21**	**U-Bolt for 5″ Casing** with ¾″ Hex. Nuts	8982–66
43931	**21a**	**U-Bolt, for 5″ Pipe** with ¾″ Hex. Nuts	8782–66
44199	**21b**	**U-Bolt, for 6″ Pipe** with ¾″ Hex. Nuts	8782–69
152944	**22**	**Ladder with Foot, Platform, Handrail and Braces** 13′ 2″ long for Ref. B	B–10313–442
	23	**Cable Clamp with Wire Eye and Bolts for 5″ Pipe** (For details refer to Plate B-2850)	B–7501–8
85591	**23a**	**Cable Clamp with Bolts and Hex. Nuts**	B–7501–8
3166	**23b**	**Wire Eye** for Refs. 23 and 24	7735–2
	24	**Cable Clamp with Wire Eye and Bolts for 5″ Casing** (For details refer to Plate B-2850)	B–7501–8
85593	**24a**	**Cable Clamp with Bolts and Hex. Nuts**	B–7501–8

UNION SWITCH & SIGNAL COMPANY

ONE-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

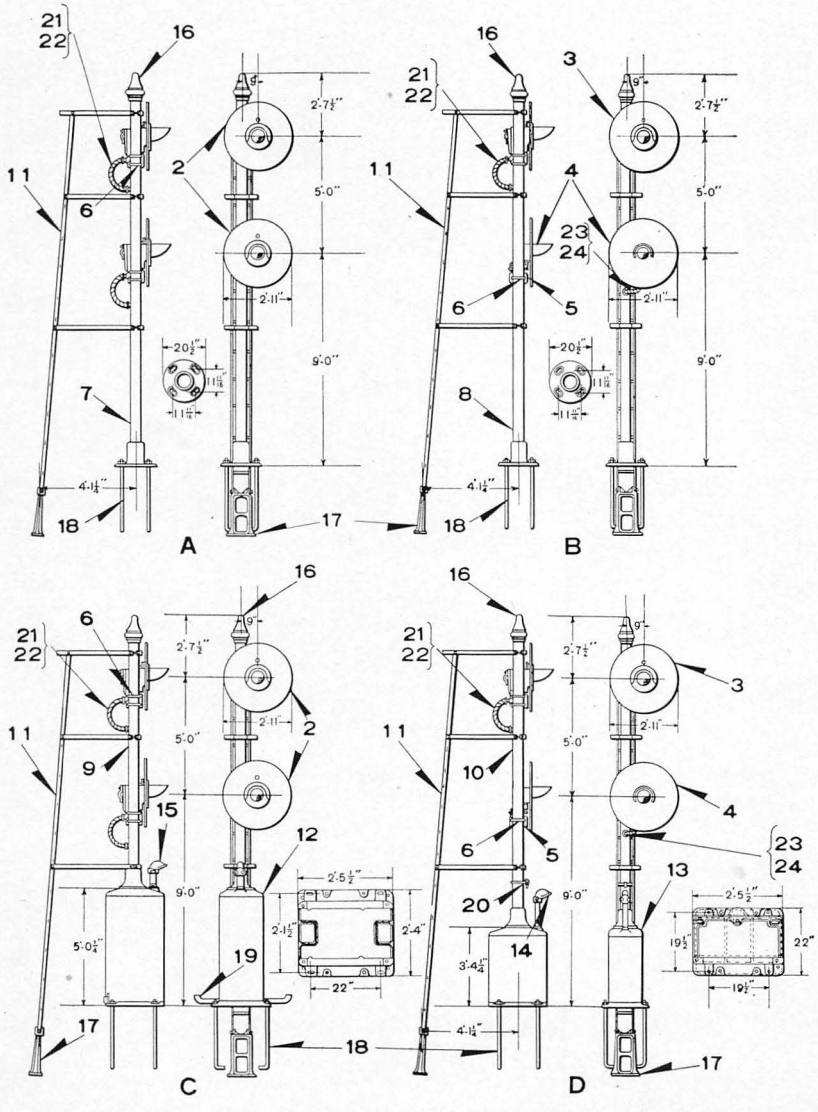
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
153257	**25**	**Wire Outlet, 1½″ 90 M. I. (Galv.)**	B–10342–32
	26	**Chase Nipple, 1½″.**	
	27	**Conduit, Double Strip Flexible, 1½″ I. D.x2.060″ O. D.x3′ 0″ Long.**	
	28	**Box Connector, 1½″ M. I. Galv.**	
	29	**Conduit, Double Strip Flexible, $\frac{13}{16}$″ I. D.x1.148″ O. D.x2′ 8″ Long.**	
	30	**Box Connector, ¾″ M. I. Galv.**	

PLATE B-2805

UNION SWITCH & SIGNAL COMPANY



TWO-UNIT COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

UNION SWITCH & SIGNAL COMPANY

TWO-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

Unless otherwise specified, signals will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation. If signals of different dimensions than those shown are desired orders should so state.

Voltage of lamps must be specified. (Single contact 8-volt, 10-watt or 11-volt, 11-watt lamps are usually employed, but other special lamps may be furnished).

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
150906	**A**	**Two-Unit, Color Light Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Foundation Bolts and Relay with Contacts**	B–12609–9
151061	**B**	**Two-Unit, (Bottom Unit Inoperative) Color Light Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Foundation Bolts and Relay with Contacts**	B–12609–13
150905	**C**	**Two-Unit, Color Light Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Instrument Case, Foundation Bolts and Relay with Contacts**	B–12609–8
151060	**D**	**Two-Unit, (Bottom Unit Inoperative) Color Light Searchlight Ground Signal with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Instrument Case, Foundation Bolts and Relay with Contacts**	B–12609–12
150171	**2**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Pipe** (For details refer to Ref. Bk, Plate B-2825)	C–9104–2
150171	**2a**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Casing** (For details refer to Ref. Bj, Plate B-2825)	C –9104–2
150171	**2b**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 6″ Pipe** (For details refer to Ref. Bm, Plate B-2825)	C–9104–2
145415	**3**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Pipe** (For details refer to Ref. Bd, Plate B-2825)	C–9104–2

UNION SWITCH & SIGNAL COMPANY

TWO-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
145415	**3a**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Casing** (For details refer to Ref. Bc, Plate B-2825)	C–9104–2
145415	**3b**	**D. C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 6″ Pipe** (For details refer to Ref. Be, Plate B-2825)	C–9104–2
	4	**Inoperative Light Signal One Position (Red)** complete with Hood and Background, without Bracket (For details refer to Ref. Aa, Plate B-2845)	C–8965–33
151059	**4a**	**Inoperative Light Signal One Position (Red)** without Hood, Background and Bracket (For details refer to Ref. Aa, Plate B-2845)	C–8965–33
149919	**5**	**Supporting Bracket** for 5″ and 6″ pipe	C–8964–65
97657	**6**	**U-Bolt, for 5″ Casing** with ¾″ Hex. Nuts	8782–66
43931	**6a**	**U-Bolt, for 5″ Pipe** with ¾″ Hex. Nuts	8782–66
44199	**6b**	**U-Bolt, for 6″ Pipe** with ¾″ Hex. Nuts	8782–69
150883	**7**	**Mast, 5″ Pipe, with Base, 15′ 10½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–155
149996	**8**	**Mast, 5″ Pipe, with Base, 15′ 10½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–155
150882	**9**	**Mast, 5″ Pipe, with Base, 10′ 10½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–154
150121	**10**	**Mast, 5″ Pipe, with Base, 12′ 6½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850)	B–9893–154

UNION SWITCH & SIGNAL COMPANY

TWO-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

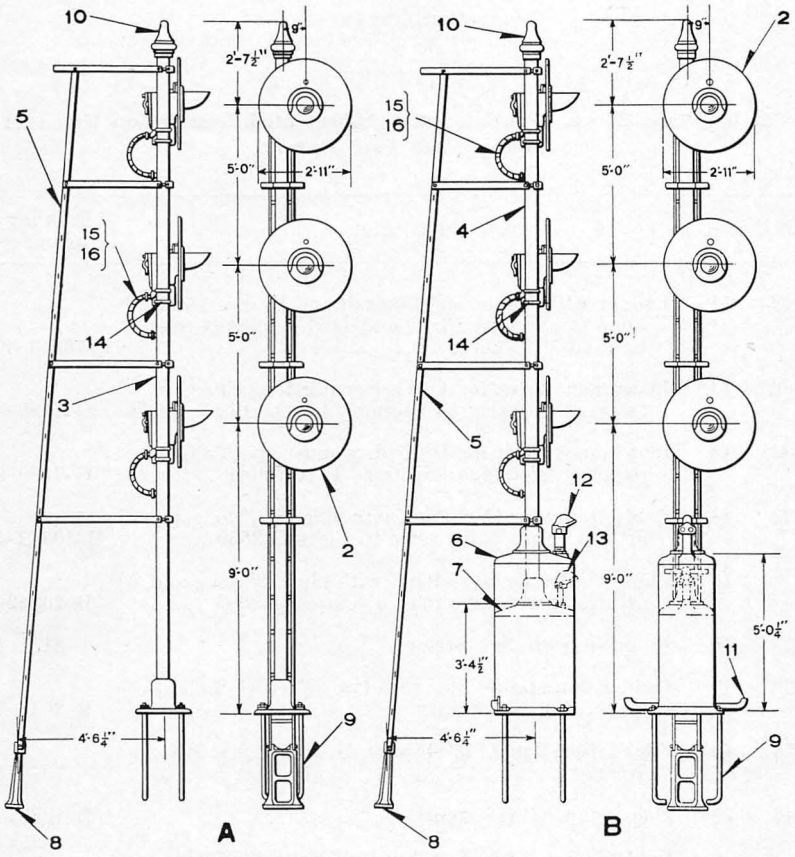
(Continued)

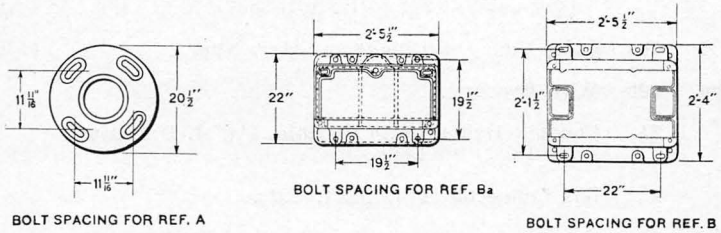
Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
149962	**11**	**Ladder with Platform, Handrail and Braces 16′ 3″ Long** for Refs. A, B, C and D (For details refer to Plate B-2855)	B–10313–428
150392	**12**	**Instrument Case for C** (Orders must specify Case required referring to Section "L" Catalog)	C–7589–38
125284	**13**	**Instrument Case for D** (Orders must specify Case required referring to Section "L" Catalog)	C–7589–24
152573	**14**	**Cable Outlet for 1½″ Pipe,** with pipe 16½″ long and fittings (For details refer to Plate B-2850)	B–10342–46
	15	**Cable Outlet for 2½″ Pipe,** with pipe 12″ long and fittings (For details refer to Plate B-2850)	B–10342–8
137792	**16**	**Pinnacle with Set Screw**	8121–44
62563	**17**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
10276	**18**	**Foundation Bolt 1″x3′ 0″** with Hex. Nut and Plate Washer	7913–54
120743	**19**	**Door Stop with Supports**	B–12507–1
	20	**Cable Clamp with Wire Eye and Bolts for 5″ Pipe** (For details refer to Plate B-2850)	B–7501–8
85591	**20a**	**Cable Clamp with Bolts and Hex. Nuts**	B–7501–8
3166	**20b**	**Wire Eye**	7735–2
	21	**Conduit, Double Strip Flexible, 1½″ I. D.x2.060″ O. D.x3′ 0″ Long.**	
	22	**Box Connector, 1½″ M. I. Galv.**	
	23	**Conduit, Double Strip Flexible, $\frac{13}{16}$″ I. D.x1.148″ O. D.x2′ 8″ Long.**	
	24	**Box Connector, ¾″ M. I. Galv.**	

PLATE B-2810

UNION SWITCH & SIGNAL COMPANY





THREE-UNIT COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

UNION SWITCH & SIGNAL COMPANY

THREE-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

Unless otherwise specified, signals will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation. If signals of different dimensions than those shown are desired orders should so state.

Voltage of lamps must be specified. (Single contact 8-volt, 10-watt or 11-volt, 11-watt lamps are usually employed, but other special lamps may be furnished).

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
150908	**A**	**Three-Unit, Color Light Searchlight Ground Signal, with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Foundation Bolts and Relay with Contacts**	B–12609–11
150907	**B**	**Three-Unit, Color Light Searchlight Ground Signal, with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Instrument Case Ref. 6, Foundation Bolts and Relay with Contacts**	B–12609–10
	Ba	**Three-Unit, Color Light Searchlight Ground Signal, with 8⅜″ Lens, Ladder, 5″ Pipe Mast, Instrument Case Ref. 7, Foundation Bolts and Relay with Contacts**	B–12609
150171	**2**	**D.C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Pipe** (For details refer to Ref. Bk, Plate B-2825)	C–9104–2
150171	**2a**	**D.C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 5″ Casing** (For details refer to Ref. Bj, Plate B-2825)	C–9104–2
150171	**2b**	**D.C. Color Light Searchlight Signal with Relay with Contacts, Background and U-Bolts for attaching to 6″ Pipe** (For details refer to Ref. Bm, Plate B-2825)	C–9104–2
150901	**3**	**Mast, 5″ Pipe, with Base, 20′ 11½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850) for Ref. A	B–9893–159
150900	**4**	**Mast, 5″ Pipe, with Base, 15′ 10½″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850) for Ref. B	B–9893–159
	4a	**Mast, 5″ Pipe, with Base, 17′ 6¼″ from Bottom of Base to Top of Mast** (For details refer to Plate B-2850) for Ref. Ba	B–9893

PLATE B-2810

UNION SWITCH & SIGNAL COMPANY

THREE-UNIT, THREE-POSITION COLOR LIGHT SEARCHLIGHT GROUND SIGNALS

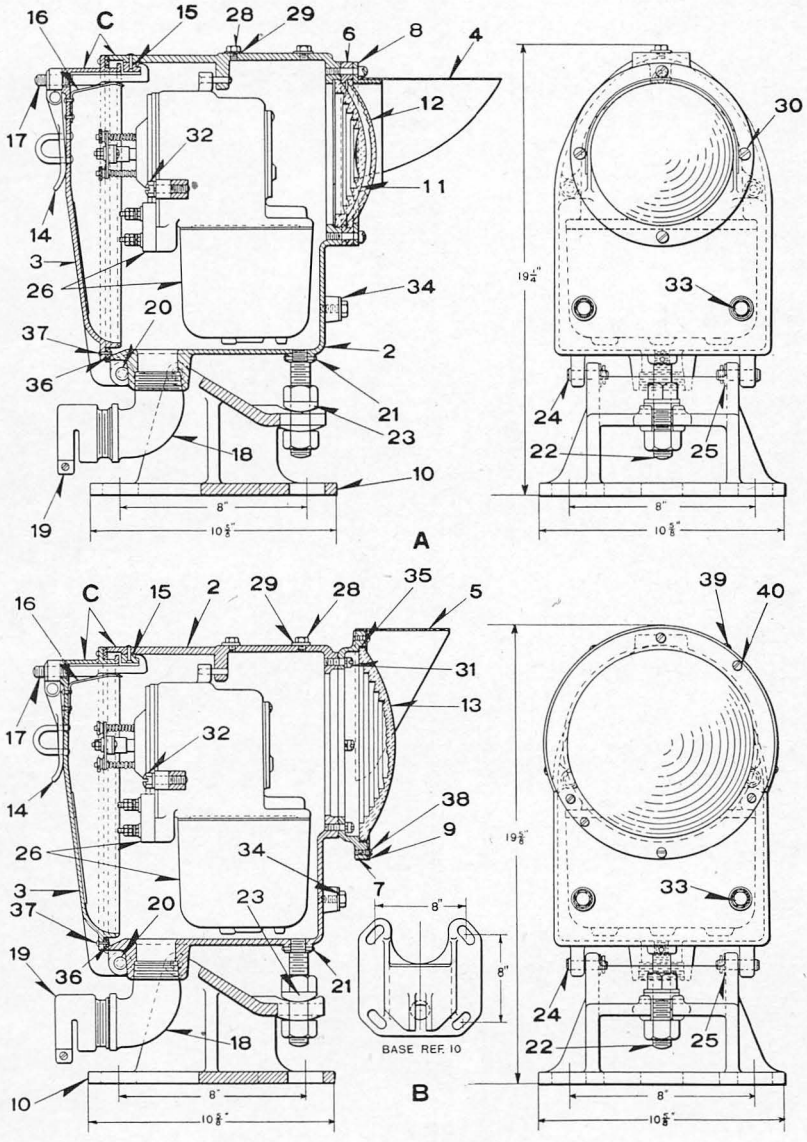
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
150943	**5**	**Ladder with Platform, Handrail and Braces 21′ 3″ Long,** for A, B and Ba (For details refer to Plate B–2855)	B–10313–433
150392	**6**	**Instrument Case for B** (Orders must specify Case required referring to Section "L" Catalog)	C–7589–38
	7	**Instrument Case for Ba** (Orders must specify Case required referring to Section "L" Catalog)	C–7589
62563	**8**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
10276	**9**	**Foundation Bolt, 1″x3′ 0″** with Hex. Nut and Plate Washer	7913–54
137792	**10**	**Pinnacle with Set Screw**	8121–44
120743	**11**	**Door Stop with Supports** for Ref. B	B–12507–1
	12	**Cable Outlet for 2½″ Pipe** with Pipe 12″ long and fittings (For details refer to Plate B-2850) for Ref. B	B–10342–8
152573	**13**	**Cable Outlet for 1½″ Pipe** with Pipe 16½″ long and fittings (For details refer to Plate B-2850) for Ref. Ba	B–10342–46
97657	**14**	**U-Bolt, for 5″ Casing** with ¾″ Hex. Nuts	8782–66
43931	**14a**	**U-Bolt, for 5″ Pipe** with ¾″ Hex. Nuts	8782–66
44199	**14b**	**U-Bolt, for 6″ Pipe** with ¾″ Hex. Nuts	8782–69
	15	**Conduit, Double Strip Flexible, 1½″ I. D.x2.060″ O. D.x3′ 0″ Long.**	
	16	**Box Connector, 1½″ M. I. Galv.**	

PLATE B-2820

UNION SWITCH & SIGNAL COMPANY



SEARCHLIGHT DWARF SIGNALS

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION, SEARCHLIGHT DWARF SIGNALS

Unless otherwise specified, signals will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation. If signals of different dimensions than those shown are desired orders should so state.

Voltage of lamps must be specified. (Single contact 8-volt, 10-watt or 11-volt, 11-watt lamps are usually employed, but other special lamps may be furnished).

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
145318	**A**	**D.C. Searchlight Dwarf Signal with 6⅜″ Lens and Relay with Contacts,** (Inc. 1-Ab, 1-26, 1-27 and 2-32) (Without Foundation Bolts)	C–9104–1
151095	**Aa**	**D.C. Searchlight Dwarf Signal with 6⅜″ Lens and Relay with Contacts,** (Inc. 1-Ac, 1-26a, 1-27 and 2-32) (Without Foundation Bolts)	C–9104–1
145317	**Ab**	**D.C. Searchlight Dwarf Signal with 6⅜″ Lens,** (Without Relay)	C–9104–1
151094	**Ac**	**D.C. Searchlight Dwarf Signal with 6⅜″ Lens,** (Without Relay)	C–9104–1
151852	**B**	**D.C. Searchlight Dwarf Signal with 8⅜″ Lens and Relay with Contacts,** (Inc. 1-Ba, 1-27, and 2-32) (Without Foundation Bolts)	C–9104–4
151851	**Ba**	**D.C. Searchlight Dwarf Signal with 8⅜″ Lens,** (Without Relay) for Ref. B	C–9104–4
144202	**C**	**Case and Door with Latch,** for Refs. A, Aa and B	C–9104–1
144203	**2**	**Case** only	C–9105–1
144204	**3**	**Door** only	C–9105–2
410522	**4**	**Hood** for Refs. Ab and Ac.	
151850	**5**	**Hood** for Ref. Ba	C–9105–10
410520	**6**	**Lens Housing** for Refs. Ab and Ac.	
144456	**7**	**Lens Housing** for Ref. Ba	C–9105–6
410519	**8**	**Hood Ring** for Refs. Ab and Ac.	
71187	**9**	**Hood Ring** for Ref. Ba	7436–106

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION, SEARCHLIGHT DWARF SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
405049	**10**	**Base.**	
68507	**11**	**Lens 6⅜″ Diam. 3¾″ Focus** for Refs. Ab and Ac..	B–8276–30
136393	**12**	**Lens 6⅜″ Diam. 20° Spread** for Refs. Ab and Ac..	B–8276–35
146717	**13**	**Lens 8⅜″ Diam. 5″ Focus with 40° Center Deflecting Prism** for Ref. Ba.....	B–8276–41
	14	**Hasp, with Latch Nut, Latch Lock, Staple and Rivet.**	
410318	**14a**	**Hasp** only.	
410521	**15**	**Latch Block with Rivets,** $\frac{3}{16}$″x¾″ Rd. Hd. I.	
410529	**16**	**Latch Spring with Rivets,** ⅛″x$\frac{9}{16}$″ Rd. Hd. I.	
410527	**17**	**Latch Lock.**	
	18	**Street Ell, 1½″** Galv.	
	19	**Panel Box Connector, 1½″** M. I. Galv.	
137853	**20**	**Pin**.....	B–10211–1
11992	**21**	**Pin**.....	8097–92
413239	**22**	**Stud with Hex. Nuts** (Cad. Pl.).....	410528
146404	**23**	**Washer**.....	8065–201
144627	**24**	**Pin with ⅛″x¾″ Cotter** (Cad. Pl.).....	B–10212–1
48750	**25**	**Washer**.....	7826–117
143574	**26**	**Relay with Contacts** (For details refer to Ref. A, Plate B-2835) (Without Lamp Bulb) for Refs. A and B.....	C–9157–2
150169	**26a**	**Relay with Contacts** (For details refer to Ref. Ad, Plate B-2835) (Without Lamp Bulb) for Ref. Aa	C–9157–2

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION, SEARCHLIGHT DWARF SIGNALS

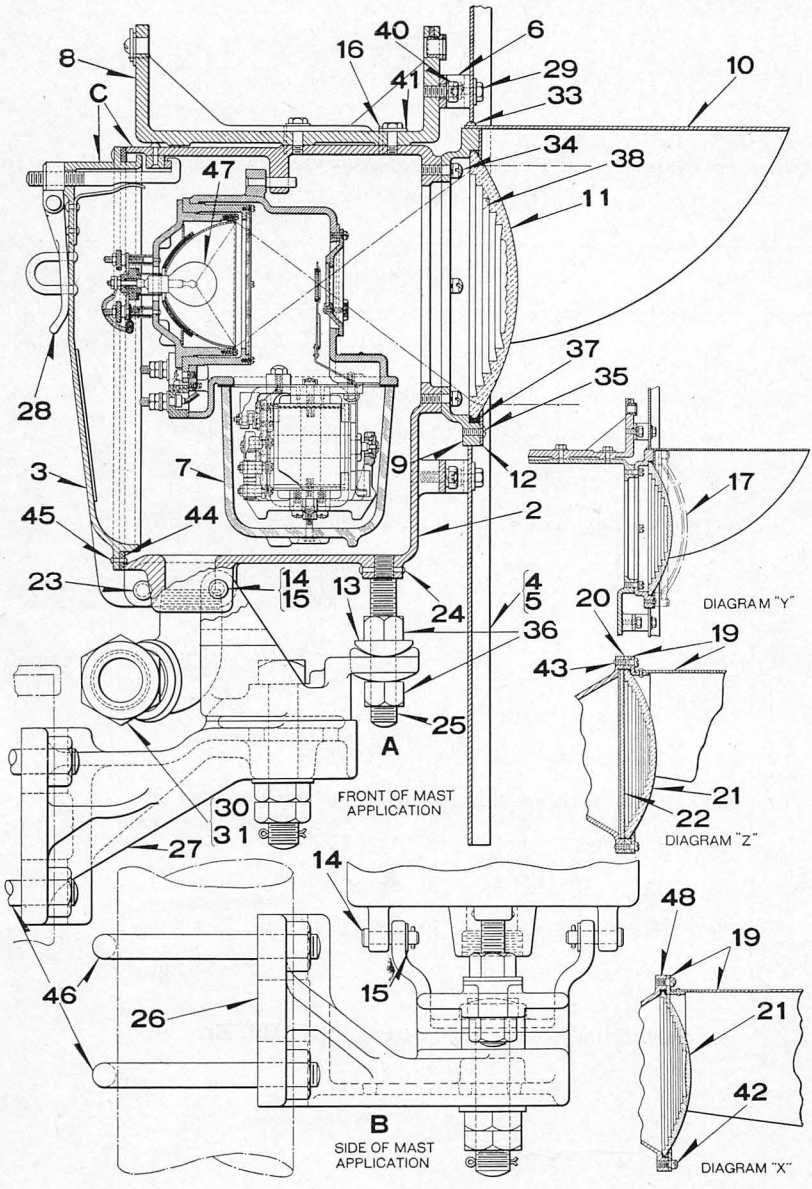
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
145877	**27**	**Lamp Bulb, 11-Volts, 11-Watts** (Not Shown).....	B–12409–18
142967	**27a**	**Lamp Bulb, 8-Volts, 10-Watts**.....	B–12409–18
	28	**Machine Screw, $\frac{5}{16}$"-18x$\frac{3}{8}$"** Hex. Hd. S. (Cad. Pl.)	
	29	**Washer, $\frac{5}{16}$"** S. Plate (Cad. Pl.)	
	30	**Machine Screw, $\frac{5}{16}$"-18x1$\frac{3}{8}$"** Fil. Hd. S. (Cad. Pl.)	
	31	**Machine Screw, $\frac{5}{16}$"-18x1"** Fil. Hd. S. with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$") Cad. Pl. for Ref. Ba.	
65018	**32**	**Screw** with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{1}{8}$"x$\frac{3}{32}$") Cad. Pl.....	8190–312
	33	**Machine Screw, $\frac{3}{8}$"-16x$\frac{3}{4}$"** Hex. Hd. S. (Cad. Pl.)	
	34	**Washer, $\frac{3}{8}$"** Std. Plate (Cad. Pl.)	
	35	**Gasket, Lamp Wick, $\frac{1}{16}$"x1"x2' 6"** for Ref. Ba	
	36	**Packing Gasket, $\frac{1}{4}$"x$\frac{1}{2}$"x3' 3$\frac{1}{2}$"**	
	37	**Rivet, $\frac{1}{8}$"x$\frac{3}{4}$"** L. Split Brass.	
	38	**Machine Screw, No. 10-30x$\frac{3}{8}$"** Rd. Hd. Br.	
	39	**Machine Screw, No. 10-30x$\frac{1}{4}$"** Rd. Hd. Steel (Cad. Pl.).	
	40	**Machine Screw, No. 14-24x$\frac{3}{8}$"** Rd. Hd. Br.	

PLATE B-2825

UNION SWITCH & SIGNAL COMPANY



SEARCHLIGHT SIGNAL UNIT FOR MOUNTING TO THE SIDE OR FRONT OF MAST.

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL UNIT

Unless otherwise specified, Relays will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation.

Voltage of lamps must be specified. (Single contact 8-volt, 10-watt or 11-volt, 11-watt lamps are usually employed, but other special lamps may be furnished).

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	A	**D.C. Searchlight Signal 8⅜″ Lens as shown with Relay without Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Casing** (Inc. 1-Ac, 1-4, 1-7b, 2-46 and 1-47) For front at top of mast Application	C–9104–3
	Aa	**D.C. Searchlight Signal 8⅜″ Lens as shown with Relay without Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Pipe** (Inc. 1-Ac, 1-4, 1-7b, 2-46a and 1-47) For front at top of Mast Application	C–9104–3
	Ab	**D.C. Searchlight Signal 8⅜″ Lens as shown with Relay without Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 6″ Pipe** (Inc. 1-Ac, 1-4, 1-7b, 2-46b and 1-47) For front at top of Mast Application	C–9104–3
147521	Ac	**D.C. Searchlight Signal with 8⅜″ Lens as shown (Without Relay, Background and U-Bolts)**	C–9104–3
145316	B	**D.C. Searchlight Signal 10½″ Lens per Diagram "X" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Casing** (Inc. 1-Bn, 1-5, 1-7, 2-46 and 1-47) For side of Mast Application	C–9104–2
145316	Ba	**D.C. Searchlight Signal 10½″ Lens per Diagram "X" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Pipe** (Inc. 1-Bn, 1-5, 1-7, 2-46a and 1-47) For side of Mast Application	C–9104–2
145316	Bb	**D.C. Searchlight Signal 10½″ Lens per Diagram "X" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 6″ Pipe** (Inc. 1-Bn, 1-5, 1-7, 2-46b and 1-47) For side of Mast Application	C–9104–2

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL UNIT
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
145415	**Bc**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Casing** (Inc. 1-Bp, 1-4, 1-7a, 2-46 and 1-47) For side of Mast Application	C–9104–2
145415	**Bd**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Pipe** (Inc. 1-Bp, 1-4, 1-7a, 2-46a and 1-47) For side of Mast Application	C–9104–2
145415	**Be**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 6″ Pipe** (Inc. 1-Bp, 1-4, 1-7a, 2-46b and 1-47) For side of Mast Application	C–9104–2
150401	**Bf**	**D.C. Searchlight Signal 10½″ Lens per Diagram "Z" with Flat Deflecting Prism Roundel Ref. 22, Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Casing** (Inc. 1-Br, 1-5, 1-7, 2-46 and 1-47) For side of Mast Application	C–9104–2
150401	**Bg**	**D.C. Searchlight Signal 10½″ Lens per Diagram "Z" with Flat Deflecting Prism Roundel Ref. 22, Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Pipe** (Inc. 1-Br, 1-5, 1-7, 2-46a and 1-47) For side of Mast Application	C–9104–2
150401	**Bh**	**D.C. Searchlight Signal 10½″ Lens per Diagram "Z" with Flat Deflecting Prism Roundel Ref. 22, Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 6″ Pipe** (Inc. 1-Br, 1-5, 1-7, 2-46b and 1-47) For side of Mast Application	C–9104–2

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL UNIT

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
150171	**Bj**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Casing** Inc. 1-Bq, 1-4, 1-7a, 2-46 and 1-47) For side of Mast Application	C–9104–2
150171	**Bk**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 5″ Pipe** (Inc. 1-Bq, 1-4, 1-7a, 2-46a and 1-47) For side of Mast Application	C–9104–2
150171	**Bm**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" with Relay with Contacts, Background, Lamp Bulb (Specify Voltage) and U-Bolts for 6″ Pipe** (Inc. 1-Bq, 1-4, 1-7a, 2-46b and 1-47) For side of Mast Application	C–9104–2
144476	**Bn**	**D.C. Searchlight Signal 10½″ Lens per Diagram "X" and without Relay, Background or U-Bolts** (With Sticker of Wiring diagram showing Terminal Board Ref. 8, Plate B-2835)	C–9104–2
144477	**Bp**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" and without Relay, Background or U-Bolts** (With Sticker of Wiring diagram showing Terminal Board Ref. 8, Plate B-2835)	C–9104–2
150170	**Bq**	**D.C. Searchlight Signal 8⅜″ Lens per Diagram "Y" and without Relay, Background or U-Bolts** (With Sticker of Wiring diagram showing Terminal Board Ref. 7, Plate B-2835)	C–9104–2
150400	**Br**	**D.C. Searchlight Signal 10½″ Lens per Diagram "Z" and 30° Flat Deflecting Prism Roundel Glass and without Relay, Background or U-Bolts** (With Sticker of Wiring diagram showing Terminal Board Ref. 8, Plate B-2835)	C–9104–2
145315	**C**	**Case and Door with Latch** for D.C. Searchlight Signal	C–9104–2

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL UNIT
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
144203	**2**	**Case**	C–9105–1
144204	**3**	**Door**	C–9105–2
144459	**4**	**Background for Signals having 8⅜″ Diam. Lens**	C–9105–6
144458	**5**	**Background for Signals having 10½″ Diam. Lens**	C–9105–6
146805	**6**	**Support**	9999–520
143574	**7**	**Relay (With Contacts)** (For details refer to Ref. A, Plate B-2835)	C–9157–2
150169	**7a**	**Relay (With Contacts)** (For details refer to Ref. Ad, Plate B-2835)	C–9157–2
152853	**7b**	**Relay (Without Contacts)** (For details refer to Ref. A, Plate B-2840)	C–9157–2
152843	**8**	**Sight Bracket**	C–9105–11
144456	**9**	**Lens Housing**	C–9105–6
65898	**10**	**Lens Hood**	C–8842–15
146717	**11**	**Lens, 8⅜″ Diam. 5″ Focus with 40° Center Deflecting Prism**	B–8276–41
71187	**12**	**Lens Ring**	7436–106
146404	**13**	**Washer**	8065–201
144627	**14**	**Pin with ⅛″x¾″ Cotter**	B–10212–1
48750	**15**	**Washer** used with Ref. 14	7826–117
38851	**16**	**Pin**	8097–423
90897	**17**	**Deflecting Prism Cover Glass (10° Spread one direction)** Used with 8⅜″ lens	C–8901–8
90898	**17a**	**Deflecting Prism Cover Glass (20° Spread one direction)** Used with 8⅜″ Lens	C–8901–8

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL UNIT
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
65018	**18**	**Screw** with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$") Cad. Pl. for attaching Relay to Case (Not Shown)	8190–312
405011	**19**	**Lens Ring with Hood.**	
410301	**20**	**Spacer.**	
148165	**21**	**Lens (Half Toric Optical) 10½" Diam. 6" Focus**	B–8276–44
148611	**21a**	**Lens (Half Toric Spreadlite) 10½" Diam. 6" Focus**	B–8276–45
150459	**22**	**Flat Deflecting Prism Roundel 30° Spread, 15° each direction 10½" Diam.**	B–8276–48
137853	**23**	**Pin**	B–10211–1
11992	**24**	**Pin**	8097–92
410528	**25**	**Stud.**	
144207	**26**	**Support Bracket for side of Mast Application** (Inc. Bolts, Washers and Nuts)	C–9105–5
147517	**27**	**Support Bracket for Front of Mast Application** (Inc. Bolts, Washers and Nuts)	C–9105–9
	28	**Hasp with Latch Nut, Latch Lock, Staple and Rivet.**	
	29	**Machine Screw, $\frac{5}{16}$"-18x¾"** Hex. Hd. S. with $\frac{5}{16}$" S. Plate Washer, $\frac{5}{16}$" Hex. Nut and $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$").	
	30	**Street Ell, 1½" Galv.**	
	31	**Street Ell, 1½" 45° Galv.**	
	32	**Box Connector, 1½" M. I. Galv.** for B (Not Shown)	
	33	**Machine Screw, No. 10-30x¼"** Rd. Hd. S. (Cad. Pl.).	
	34	**Machine Screw, $\frac{5}{16}$"-18x1"** Fil. Hd. S. with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$") Cad. Pl.	

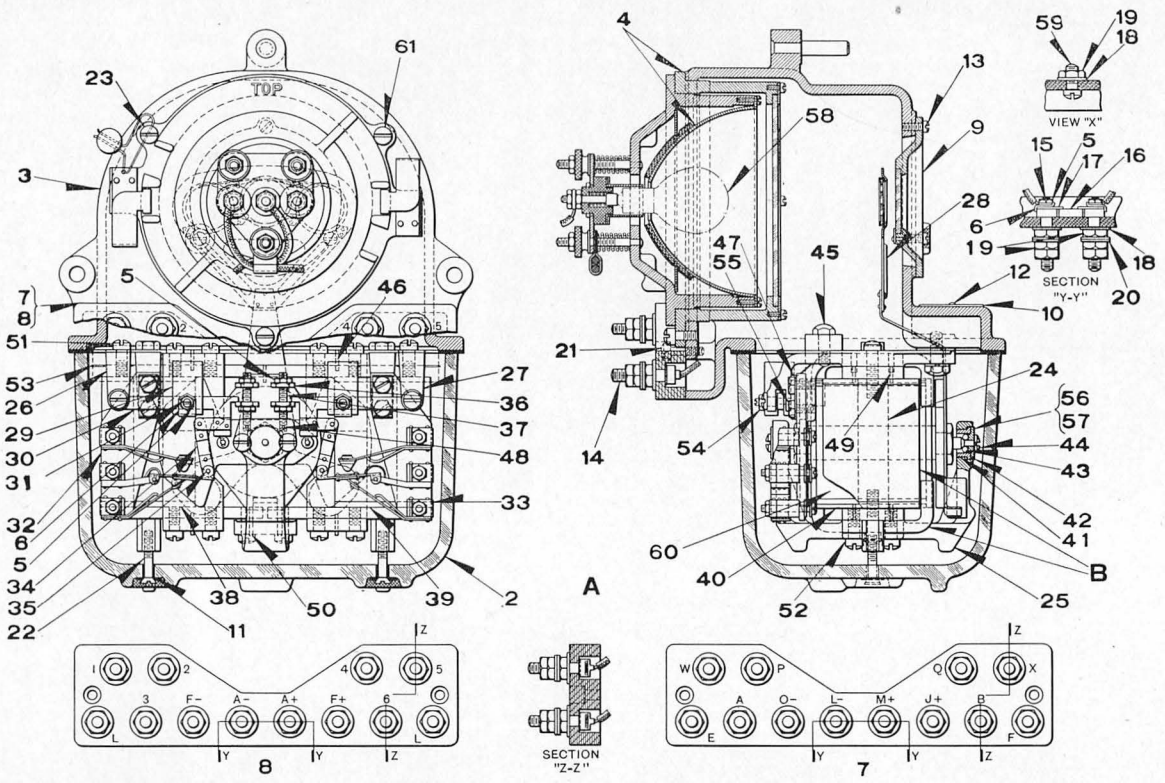
PLATE B-2825

UNION SWITCH & SIGNAL COMPANY

THREE-POSITION COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL UNIT
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	35	**Machine Screw, No. 10-30x3/8″** Rd. Hd. Br.	
	36	**Hex. Nut, 3/4″** Std.	
	37	**Gasket, 1/16″x1″x2′ 6″ Lamp Wick.**	
	37a	**Gasket, 1/16″x1″x3′ 0″ Lamp Wick.**	
	38	**Machine Screw, No. 14-24x3/8″** Rd. Hd. Br.	
	39	**Machine Screw, No. 14-24x5/8″** Rd. Hd. Br. For Deflecting Unit (Not shown)	
	40	**Machine Screw, 3/8″-16x3/4″** Hex. Hd. S. with 3/8″ Plain S. Lock Washer (5/32″x1/16″)	
	41	**Washer, 5/16″ Std. Plate.**	
	42	**Machine Screw, 3/8″-16x1″** Fil. Hd. S. (Cad. Pl.) for attaching Ref. 19 to 48.	
	43	**Machine Screw, 3/8″-16x1 3/8″** Fil. Hd. S. (Cad. Pl.)	
	44	**Packing Gasket, 1/4″x1/2″x3′ 3 1/2″.**	
	45	**Rivet, 1/8″x3/4″** Split Br.	
97657	**46**	**U-Bolt** with 3/4″ Hex. Nuts for attaching Signal to 5″ Casing	8782–66
43931	**46a**	**U-Bolt** with 3/4″ Hex. Nuts for attaching Signal to 5″ Pipe	8782–66
44199	**46b**	**U-Bolt** with 3/4″ Hex. Nuts for attaching Signal to 6″ Pipe	8782–69
145877	**47**	**Lamp Bulb, 11-Volt, 11-Watt**	B–12409–18
142967	**47a**	**Lamp Bulb, 8-Volt, 10-Watt**	B–12409–18
144455	**48**	**Lens Housing**	C–9105–6



SEARCHLIGHT SIGNAL RELAY (WITH CONTACTS)

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITH CONTACTS)

Unless otherwise specified, Relays will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
143574	**A**	**D.C. Searchlight Signal Relay with Relay, Ref. Af and with R. H. Roundel Green, Middle Roundel Red and Left Hand Roundel Yellow** (Without Lamp Bulb Ref. 58)	C–9157–2
146768	**Aa**	**D.C. Searchlight Signal Relay with Relay, Ref. Af and with R. H. Roundel Green, Middle Roundel Red and Left Hand Roundel Red** (Without Lamp Bulb Ref. 58)	C–9157–2
146769	**Ab**	**D.C. Searchlight Signal Relay with Relay, Ref. Af and with R. H. Roundel Green, Middle Roundel Yellow and L.H. Roundel Yellow** (Without Lamp Bulb Ref. 58)	C–9157–2
146770	**Ac**	**D.C. Searchlight Signal Relay with Relay, Ref. Af and with R. H. Roundel Red, Middle Roundel Red and L. H. Roundel Yellow** (Without Lamp Bulb Ref. 58)	C–9157–2
150169	**Ad**	**D.C. Searchlight Signal Relay with Relay, Ref. Ag and with R. H. Roundel Green, Middle Roundel Red and L. H. Roundel Yellow** (Without Lamp Bulb Ref. 58)	C–9157–2
156462	**Ae**	**D.C. Searchlight Signal Relay with Relay, Ref. Af and with R. H. Roundel Purple, Middle Roundel Purple and L. H. Roundel Yellow** (Without Lamp Bulb Ref. 58)	C–9157–2
151642	**Af**	**D.C. Searchlight Signal Relay without Roundels** (Inc. Refs. B and 8)	C–9157–2
151700	**Ag**	**D.C. Searchlight Signal Relay without Roundels** (Inc. Refs. B and 7)	C–9157–2
146146	**B**	**Mechanism with Field Coils 500-Ohms per pair, Armature Coil 250-Ohms** for D. C. Searchlight Signal Relay (Without Roundels)	C–9157–2

PLATE B-2835

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITH CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
141439	**2**	**Lower Case**	8163–292
144011	**3**	**Upper Case**	C–9158–4
148169	**4**	**Reflector with Socket, Retaining Ring, Reflector Glass and Roundel Ring**	C–9158–5
29956	**5**	**Nut**	8109–202
29353	**6**	**Lock Washer**	8486–106
	7	**Terminal Board with Posts, Nuts and Washers** (Inc. 1-7a, 10-14, 2-15, 1-16, 2-17, 12-18, 36-19 and 24-20)	9968–850
150174	**7a**	**Terminal Board for Ref. Ag**	9968–850
	8	**Terminal Board with Posts, Nuts and Washers** (Inc. 1-8a, 10-14, 2-15, 1-16, 2-17, 12-18, 36-19 and 24-20)	9968–806
143602	**8a**	**Terminal Board for Ref. Af**	9968–806
141657	**9**	**Roundel Ring with Roundel, Clips and Rivets**	7632–225
141725	**10**	**Name Plate**	8225–294
70539	**11**	**Washer**	8274–73
	12	**Drive Screw, No. 6x1/4″** (Cad. Pl.)	
	13	**Machine Screw, No. 6-40x3/8″** Fil. Hd. Br. (N. P.)	
141688	**14**	**Terminal Post**	8094–1192
141689	**15**	**Terminal Post**	8094–2179
410560	**16**	**Connector**	410561
410561	**17**	**Clip.**	
29104	**18**	**Washer**	7828–138

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITH CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
29103	**19**	**Nut**	8109–194
29102	**20**	**Washer**	7828–139
	21	**Machine Screw, No. 10-30x5/8″** Fil. Hd. Br. (N. P.)	
	22	**Machine Screw, No. 10-30x7/8″** Flat Hd. S. (Cad. Pl.)	
153231	**23**	**Screw**	8098–868
148088	**24**	**Magnet Core with Cores, Backstraps, Pole Pieces and Screws**	C–9158–3
141711	**25**	**Armature Bracket**	C–9158–2
141709	**26**	**L. H. Supporting Arm**	C–9158–2
141710	**27**	**R. H. Supporting Arm**	C–9158–2
141719	**28**	**Armature Assembly with Spectacle, 250-Ohm Coil, Armature, Pole Shoes, Rollers and Pins** (Without Roundels)	C–9158–3
141652	**29**	**Counterweight**	9672–192
141682	**30**	**Operating Arm with Bearing Arms, Bushing and Rivets**	11893–340
141726	**31**	**Set Screw**	8098–1297
141707	**32**	**L. H. Contact Spring Board**	9968–783
141708	**33**	**R. H. Contact Spring Board**	9968–783
141679	**34**	**Link with Insulation and Rivets**	8232–187
141701	**35**	**Pin**	8097–852
141675	**36**	**Nut**	8109–324
141698	**37**	**Screw**	8098–583

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITH CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

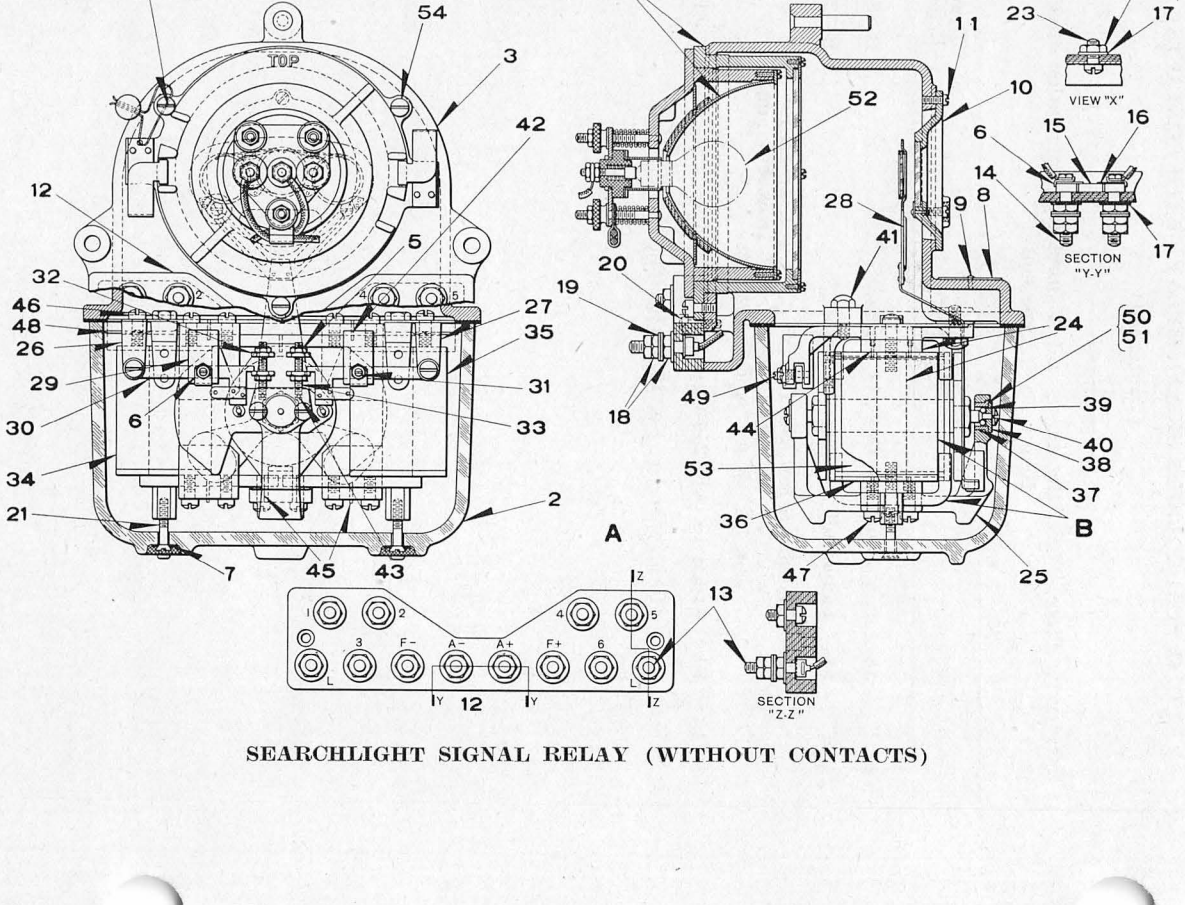
Piece	Ref.	Description	Drawing Reference
144740	**38**	**L. H. Coil**	8133–357
142142	**39**	**R. H. Coil**	8133–357
141676	**40**	**Coil Spacer**	10914–100
141686	**41**	**Bearing**	8350–706
141687	**42**	**Bearing Cap**	8350–706
	43	**Steel Ball, 1/8″ Diam.** (1st Grade)	
141685	**44**	**Screw**	8098–1296
	45	**Cap Screw, 1/4″-20x5/8″** Hex. Hd. S. (Cad. Pl.)	
57496	**46**	**Pin**	8097–872
74798	**47**	**Lock Washer**	8486–155
54928	**48**	**Rivet**	10301–21
25948	**49**	**Pin**	8097–167
37409	**50**	**Pin**	8097–336
	51	**Machine Screw, No. 14-24x1/2″** Fil. Hd. S. (Cad. Pl.)	
	52	**Machine Screw, No. 14-24x5/8″** Fil. Hd. S. (Cad. Pl.)	
63915	**53**	**Clip**	8486–267
141684	**54**	**Pivot Screw**	8378–345
119318	**55**	**Screw**	8098–464
144155	**56**	**Washer (.002 thick)** for adjusting end play	7828–218
144156	**57**	**Washer (.005 thick)** for adjusting end play	7828–218

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITH CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
145877	**58**	**Lamp Bulb, 11-Volts, 11-Watts**	B–12409–18
142967	**58a**	**Lamp Bulb, 8-Volts, 10-Watts**	B–12409–18
	59	**Machine Screw, No. 14-24x½″** Fil. Hd. Br. (N.P.) with Nut Ref. 19 and Washer Ref. 18 as shown in View "X" (Used for Dummy Post)	12471
141712	**60**	**Armature Coil, 250-Ohms** for Ref. 28	8133–356
	61	**Machine Screw, No. 10-30x½″** Fil. Hd. S. (Cad. Pl.)	



SEARCHLIGHT SIGNAL RELAY (WITHOUT CONTACTS)

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITHOUT CONTACTS)

Unless otherwise specified, Relays will be furnished with Mechanism having right hand roundel Yellow, middle roundel Red and left hand roundel Green (approaching the signal) with Field Coil for 6-volt minimum and 8-volt maximum and Armature Coil for 6½-volt minimum and 8-volt maximum operation.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
152853	**A**	**D.C. Searchlight Signal Relay with Relay, Ref. Ab, and with R. H. Roundel Green, Middle Roundel Red and L. H. Roundel Yellow** (Without Lamp Bulb Ref. 52)	C–9157–2
152855	**Aa**	**D.C. Searchlight Signal Relay with Relay, Ref. Ab, and with R. H. Roundel Green, Middle Roundel Yellow and L. H. Roundel Red** (Without Lamp Bulb, Ref. 52)	C–9157–2
152852	**Ab**	**D.C. Searchlight Signal Relay without Roundels with Mechanism, Ref. B and with Dummy Posts in Terminal Board in Holes 1-2-3-4-5 and 6 per View "X"**	C–9157–2
152851	**B**	**Mechanism without Contacts, Field Coils 500-Ohms per pair, Armature Coil 250-Ohms for D.C. Searchlight Signal Relay,** (Without Roundels)	C–9157–2
141439	**2**	**Lower Case**	8163–292
144011	**3**	**Upper Case**	C–9158–4
148169	**4**	**Reflector with Socket, Retaining Ring, Reflector Glass and Roundel Ring**	C–9158–5
29956	**5**	**Nut**	8109–202
29353	**6**	**Lock Washer**	8486–106
70539	**7**	**Washer**	8274–73
141725	**8**	**Name Plate**	8225–294

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITHOUT CONTACTS)

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	9	**Drive Screw, No. 6x1/4″** Parker Hardened (Cad. Pl.)	
141657	**10**	**Roundel Ring with Roundel, Clips and Rivets**	7632–225
	11	**Machine Screw, No. 6-40x3/8″** Fil. Hd. Br. (N. P.)	
	12	**Terminal Board with Posts, Nuts and Washers** (Inc. 1-12a, 4-13, 2-14, 1-15, 2-16, 12-17, 24-18, 12-19 and 6-23)	9968–806
143602	**12a**	**Terminal Board**	9968–806
141688	**13**	**Terminal Post**	8094–1192
141689	**14**	**Terminal Post**	8094–2179
410560	**15**	**Connector**	410561
410561	**16**	**Clip.**	
29104	**17**	**Washer**	7828–138
29103	**18**	**Nut**	8109–194
29102	**19**	**Washer**	7828–139
	20	**Machine Screw, No. 10-30x5/8″** Fil. Hd. Br. (N.P.)	
	21	**Machine Screw, No. 10-30x7/8″** Flat Hd. S. (Cad. Pl.)	
153231	**22**	**Screw**	8098–868
	23	**Machine Screw, No. 14-24x1/2″** Fil. Hd. Br. (N.P.) with Nut Ref. 18 and Washer Ref. 17 as shown in View "X" (Used for Dummy Post).	
148088	**24**	**Magnet Core with Cores, Backstraps, Pole Pieces and Screws**	C–9158–3
141711	**25**	**Armature Bracket**	C–9158–2

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITHOUT CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

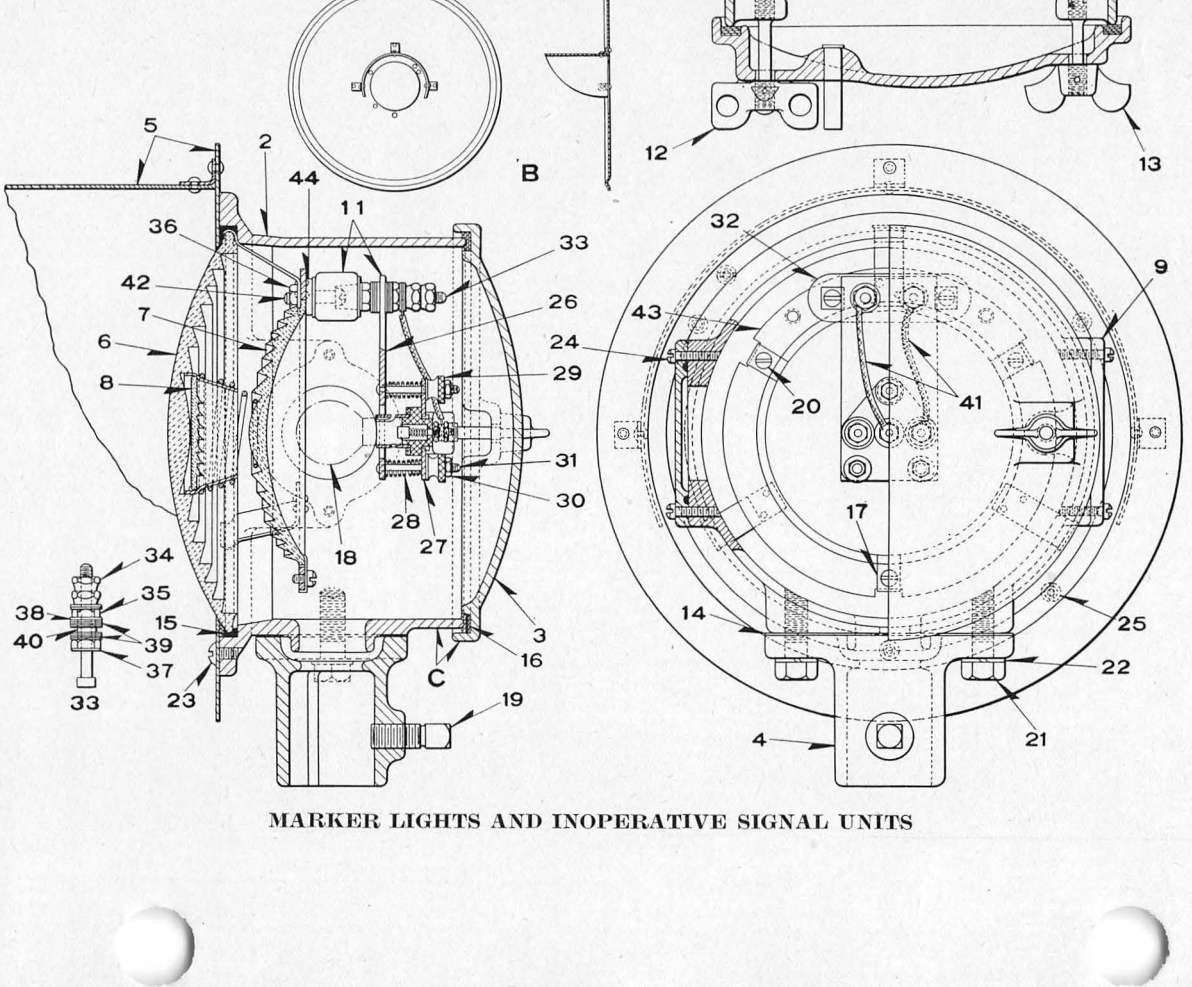
Piece	Ref.	Description	Drawing Reference
141709	**26**	**L. H. Supporting Arm**	C–9158–2
141710	**27**	**R. H. Supporting Arm**	C–9158–2
141719	**28**	**Armature Assembly with Spectacle, 250-Ohm Coil, Armature, Pole Shoes, Rollers and Pins** (Without Roundels)	C–9158–3
152865	**29**	**Counterweight**	9672–192
141682	**30**	**Operating Arm with Bearing Arms, Bushing and Rivets**	11893–340
141726	**31**	**Set Screw**	8098–1297
141675	**32**	**Nut**	8109–324
141698	**33**	**Screw**	8098–583
144740	**34**	**L. H. Coil**	8133–357
142142	**35**	**R. H. Coil**	8133–357
141676	**36**	**Coil Spacer**	10914–100
141686	**37**	**Bearing**	8350–706
141687	**38**	**Bearing Cap**	8350–706
	39	**Steel Ball, 1/8″ Diam.** (1st Grade).	
141685	**40**	**Screw**	8098–1296
	41	**Cap Screw, 1/4″-20x5/8″** Hex. Hd. S. (Cad. Pl.)	
57496	**42**	**Pin**	8097–872
54928	**43**	**Rivet**	10301–21
25948	**44**	**Pin**	8097–167
37409	**45**	**Pin**	8097–336

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
D. C. SEARCHLIGHT SIGNAL RELAY (WITHOUT CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	46	**Machine Screw, No. 14-24x1/2″** Fil. Hd. S. (Cad. Pl.)	
	47	**Machine Screw, No. 14-24x5/8″** Fil. Hd. S. (Cad. Pl.)	
63915	**48**	**Clip**	8486–267
141684	**49**	**Pivot Screw**	8378–345
144155	**50**	**Washer (.002″ thick)** for adjusting end play	7828–218
144156	**51**	**Washer (.005″ thick)** for adjusting end play	7828–218
145877	**52**	**Lamp Bulb, 11-Volts, 11-Watts**	B–12409–18
142967	**52a**	**Lamp Bulb, 8-Volts, 10-Watts**	B–12409–18
141712	**53**	**Armature Coil, 250-Ohms** for Ref. 28	8133–356
	54	**Machine Screw, No. 10-30x1/2″** Fil. Hd. S. (Cad. Pl.)	



MARKER LIGHTS AND INOPERATIVE SIGNAL UNITS

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
MARKER LIGHT, STYLE HC-33

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
149921	**A**	**Lamp Unit with Hood, 12″ Diam. Background and Lunar White Back Lens (Without Lamp Bulb Ref. 18)** (Single Contact Auto. Headlight Type Lamp)	C–8965–33
	Aa	**Lamp Unit with Hood, 2′ 11″ Diam. Background and Red Back Lens (without Lamp Bulb Ref. 18)** (S. C. Auto. Headlight Type Lamp)	C–8965–33
	Ab	**Lamp Unit with Hood, 2′ 11″ Diam. Background and Yellow Back Lens (without Lamp Bulb Ref. 18)** (S. C. Auto. Headlight Type Lamp)	C–8965–33
151059	**Ac**	**Lamp Unit with Red Back Lens, without Hood, Background and Bulb Ref. 18** (Single Contact Auto. Headlight Type Lamp) for Ref. Aa	C–8965–33
152306	**Ad**	**Lamp Unit with Yellow Back Lens, without Hood, Background and Lamp Bulb Ref. 18** (Single contact Auto. Headlight Type Lamp) for Ref. Ab	C–8965–33
151058	**B**	**Hood and 2′ 11″ Diam. Background with 1/8″x3/8″ Rivets** for Refs. Aa and Ab	C–8964–71
149920	**C**	**Case and Door with Gasket and Wing Nuts**	C–8965–33
149917	**2**	**Case** only	C–8964–33
132415	**3**	**Door**	C–8964–34
149886	**4**	**Lamp Unit Support**	C–8964–68
149987	**5**	**Hood and 12″ Diam. Background with 1/8″x3/8″ Rivets**	C–8964–71
71186	**6**	**Lens 8 3/8″ Diam. (Clear)**	B–8276–22
150837	**7**	**Lens 5 1/2″ Diam. (Lunar White)** for Ref. A	B–8276–23
68162	**7a**	**Lens 5 1/2″ Diam. (Yellow)** for Ref. Ad	B–8276–23

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
MARKER LIGHT, STYLE HC-33

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
71329	**7b**	**Lens 5½″ Diam. (Red)** for Ref. Ac	B–8276–23
130694	**8**	**Deflecting Unit** for near indication 25° spread	C–8901–63
125749	**9**	**Cover**	C–8964–22
151774	**10**	**Lens Ring** (Not Shown) for Refs. Ac and Ad	7436–106
149888	**11**	**Lamp Socket (Single Contact) with Terminal Block, Lens Support and Lamp Socket**	C–8964–68
149887	**11a**	**Lamp Socket (Single Contact) without Lens Support**	C–8964–68
132539	**12**	**Wing Nut**	8331–69
132541	**13**	**Wing Nut**	8331–70
135185	**14**	**Gasket**	8078–1420
131706	**15**	**Gasket**	8078–1367
124383	**16**	**Gasket**	8078–717
76735	**17**	**Clip**	11893–31
145877	**18**	**Lamp Bulb, 11-Volts, 11-Watts**	B–12409–18
142967	**18a**	**Lamp Bulb, 8-Volts, 10-Watts**	B–12409–18
	19	**Set Screw, ½″x1″** Cup Point Iron.	
	20	**Machine Screw, No. 10-30x¼″** Fil. Hd. Brass (N. P.)	
	21	**Tap Bolt, ½″x1¼″** Hex. Hd. (Cad. Pl.).	
	22	**Lock Washer, ½″ Plain S.** ($\frac{3}{16}$″x$\frac{3}{32}$″) Cad. Pl.	
	23	**Machine Screw, No. 14-24x⅜″** Rd. Hd. S. (Cad. Pl.).	

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
MARKER LIGHT, STYLE HC-33
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	23a	**Machine Screw, No. 14-24x1/2″** Rd. Hd. S. (Cad. Pl.) used when Lens Ring Ref. 10 is used.	
	24	**Machine Screw, No. 10-30x5/8″** Fil. Hd. S. (Cad. Pl.).	
	25	**Machine Screw, No. 14-24x3/8″** Rd. Hd. S. (Cad. Pl.).	
149885	26	**Lamp Support**	11893–417
148204	27	**Lamp Socket**	12415–12
149104	28	**Spring**	8124–218
35790	29	**Nut**	8109–239
1515	30	**Nut**	8109–23
149105	31	**Stud**	8114–361
	32	**Terminal Block with Terminal Posts, Nuts and Washers** (Inc. 1-32a, 2-33, 4-34, 4-35, 6-37, 4-38 and 16-39)	9968–628
114147	32a	**Terminal Block** only	9968–628
113978	33	**Terminal Post**	8094–1192
29101	34	**Nut**	8109–193
29103	35	**Nut**	8109–194
127260	36	**Nut**	8109–194
29102	37	**Washer**	7828–139
29104	38	**Washer**	7828–138
9468	39	**Ins. Washer**	8078–76
18470	40	**Bushing**	B–10270–1

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
MARKER LIGHT, STYLE HC-33

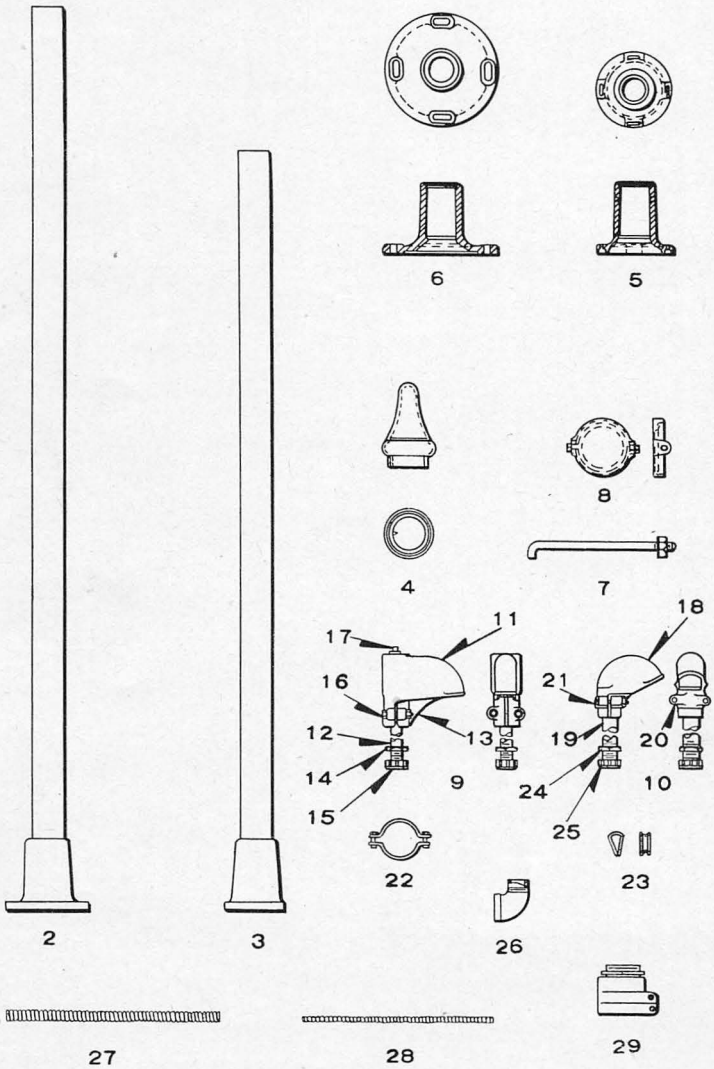
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
138797	**41**	**Lead**	B–9990–11
	42	**Machine Screw, No. 14-24x1″** Fil. Hd. S. (Cad. Pl.) with Nut Ref. 36 and ¼″ Plain Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″).	
132513	**43**	**Lens Support**	C–8964–32
122842	**44**	**Gasket**	8078–880

PLATE B-2850

UNION SWITCH & SIGNAL COMPANY



MASTS, PINNACLES AND CABLE OUTLETS

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL DETAIL PARTS POSTS, CABLE OUTLETS, BASES, ETC.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
149996	**2**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with A.R.A. Base** for Ground Mounting as shown for One-Unit Searchlight Ground Signal Ref. A, Plate B-2800 and Two-Unit Searchlight Ground Signal Ref. B, Plate B-2805, 15′ 10½″ from Bottom of Base to Top of Mast	B–9893–155
150883	**2a**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with A.R.A. Base** for Ground Mounting for Two-Unit Searchlight Ground Signal Ref. A, Plate B-2805, 15′ 10½″ from Bottom of Base to Top of Mast	B–9893–155
150901	**2b**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with A.R.A. Base** for Ground Mounting for Three-Unit Searchlight Ground Signal Ref. A, Plate B-2810, 20′ 11½″ from Bottom of Base to Top of Mast	B–9893–159
118996	**2c**	**Mast, 5″ Pipe, 15′ 8″ long** (Without Base or Drilling for Refs. 2, 2a and 3)	B–10920–4
98648	**2d**	**Mast, 5″ Pipe, 20′ 9″ long** (Without Base or Drilling for Ref. 2b)	B–10920–7
150900	**3**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with Base** for Mounting on Instrument Case as shown for Three-Unit Searchlight Ground Signal Ref. B, Plate B-2810, 15′ 10½″ from Bottom of Base to Top of Mast	B–9893–159
149953	**3a**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with Base** for Mounting on Instrument Case for One-Unit Searchlight Ground Signal Ref. D, Plate B-2800, 10′ 10½″ from Bottom of Base to Top of Mast	B–9893–154
150121	**3b**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with Base** for Mounting on Instrument Case for One-Unit Searchlight Ground Signal Ref. C, Plate B-2800 and Two-Unit Searchlight Ground Signal Ref. D, Plate B-2805, 12′ 6½″ from Bottom of Base to Top of Mast	B–9893–154

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
POSTS, CABLE OUTLETS, BASES, ETC.

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
150882	**3c**	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with Base** for Mounting on Instrument Case for Two-Unit Searchlight Ground Signal Ref. C, Plate B-2805, 10′ 10½″ from Bottom of Base to Top of Mast	B–9893–154
146633	**3d**	**Mast, 5″ Casing drilled and tapped for Wire Outlets with Base** for Mounting on Instrument Case for One-Unit Searchlight Ground Signal Ref. B, Plate B-2800, 10′ 8″ from Bottom of Base to Top of Mast	B–9893–154
	3e	**Mast, 5″ Pipe drilled and tapped for Wire Outlets with Base** for Mounting on Instrument Case for Three-Unit Searchlight Ground Signal Ref. Ba, Plate B-2810, 17′ 6½″ from Bottom of Base to Top of Mast	B–9893
33097	**3f**	**Mast, 5″ Pipe, 10′ 8″ long** (Without Base or Drilling for Refs. 3a and 3c)	B–10920–1
128052	**3g**	**Mast, 5″ Pipe, 12′ 4″ long** (Without Base or Drilling for Ref. 3b)	B–10920–7
121002	**3h**	**Mast, 5″ Casing, 10′ 5½″ long** (Without Base or Drilling for Ref. 3d)	B–10920–7
	3j	**Mast, 5″ Pipe, 17′ 4½″ long** (Without Base or Drilling for Ref. 3e)	B–10920
137792	**4**	**Pinnacle with Set Screw**	8121–44
87694	**5**	**Base, for 5″ Pipe** for Refs. 3, 3a, 3b and 3c	C–7207–6
63263	**5a**	**Base, for 5″ Casing** for Ref. 3d	C–7207–3
121401	**6**	**Base, A.R.A. for 5″ Pipe** for 2, 2a and 2b	C–7207–15
149059	**6a**	**Base, A.R.A. for 5″ Casing**	C–7207–15
10276	**7**	**Foundation Bolt, 1″x3′ 0″** with 1″ Hex. Nut and Std. 1″ Plate Washer	7913–54

UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
POSTS, CABLE OUTLETS, BASES, ETC.
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
147427	**8**	**Pipe Cap** with Two 3/8″-16x3/4″ Hex. Hd. Tap Bolts (Cad. Pl.)	B–9931–5
152573	**9**	**Cable Outlet for 1½″ Pipe,** with Pipe, Lock Nut and Pipe Plug	B–10342–46
	10	**Cable Outlet for 2½″ Pipe,** with Pipe, Bushing and Lock Nut	B–10342–8
123274	**11**	**Cap** with 1″ Pipe Tap	B–10342–46
45152	**12**	**Pipe, 1½″ Galv. 16½″ long** for Ref. 9	B–10342–3
63171	**13**	**Clamp**	B–10342–1
	14	**Lock Nut, 1½″.**	
	15	**Bushing, 1½″.**	
	16	**Bolt,** ½″x2¾″ Hex. Hd. and ½″ Hex. Nut for attaching 13 to 11.	
	17	**Pipe Plug 1″.**	
49658	**18**	**Cap**	B–10342–8
149005	**19**	**Pipe, 2½″ Galv. 12″ long** for Ref. 10	B–11015–18
49659	**20**	**Clamp**	B–10342–8
	21	**Bolt,** ½″x3½″ Hex. Hd. with ½″ Hex. Nut for attaching 20 to 18.	
85591	**22**	**Cable Clamp** for 5″ Pipe with two Bolts Ref. 22b	B–7501–8
85593	**22a**	**Cable Clamp** for 5″ Casing with two Bolts Ref. 22b	B–7501–8
36830	**22b**	**Bolt** with ½″ Hex. Nut	8280–81
3166	**23**	**Wire Eye**	7735–2
	24	**Lock Nut 2½″** for Ref. 10.	

UNION SWITCH & SIGNAL COMPANY

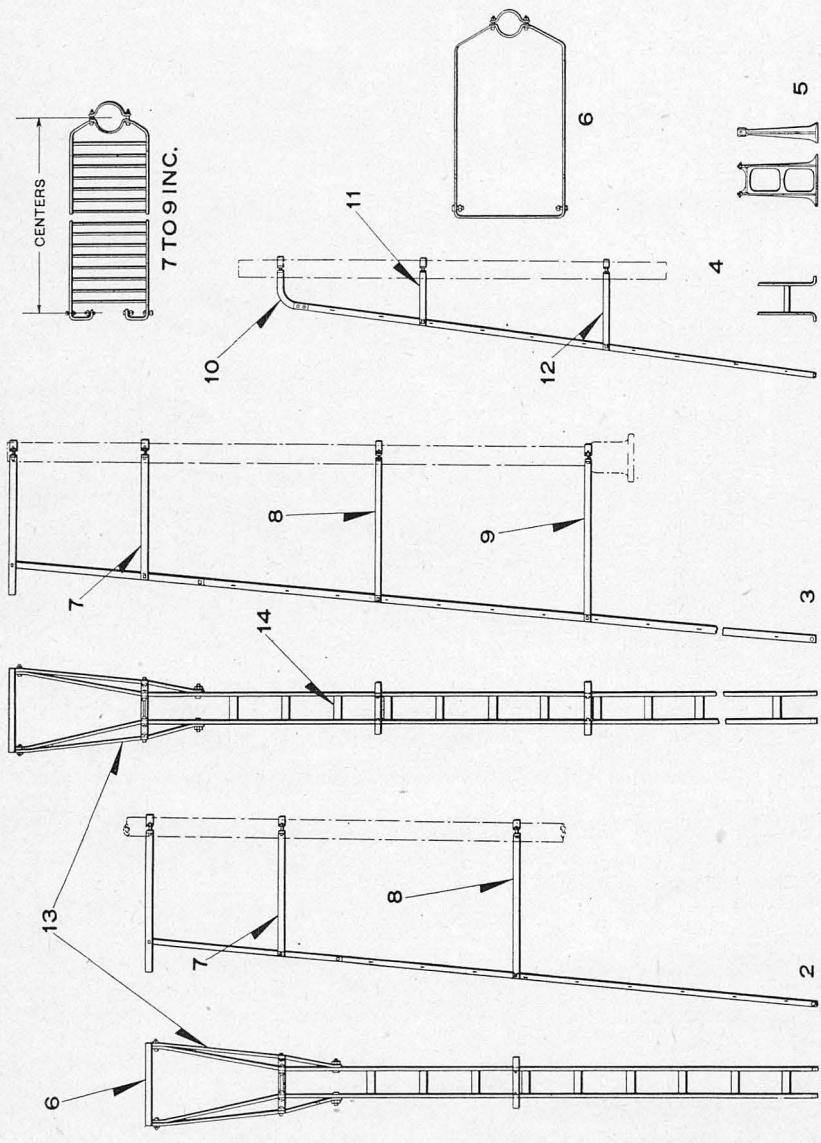
COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
POSTS, CABLE OUTLETS, BASES, ETC.
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
	25	**Bushing 2½″ for Ref. 10.**	
153257	**26**	**Wire Outlet, 1½″ 90° M. I. (Galv.)**	
	27	**Conduit, Double Strip Flexible, 1½″ I. D.x2.060″ O. D.x3′ 0″ long.**	
	28	**Conduit, Double Strip Flexible, $\frac{13}{16}$″ I. D.x1.148″ O. D.x2′ 8″ long.**	
	29	**Box Connector, 1½″ M. I. (Galv.)**	
	29a	**Box Connector, ¾″ M. I. (Galv.)**	

PLATE B-2855

UNION SWITCH & SIGNAL COMPANY



LADDERS AND DETAILS

UNION SWITCH & SIGNAL COMPANY

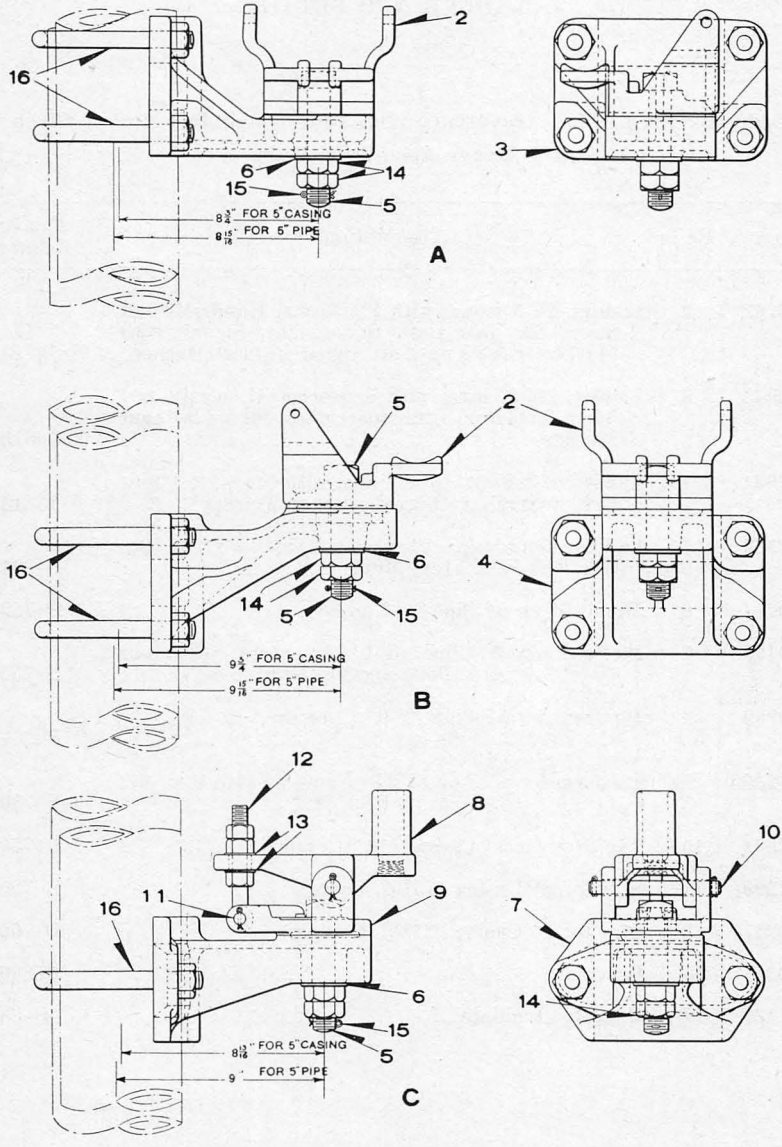
COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
LADDER AND DETAILS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
149962	**2**	**Ladder, 16′ 3″ long, with Platforms, Handrails and Stays for One-Unit Searchlight Signal with Marker or for Two-Unit Signal without Marker.**	B–10313–428
150943	**3**	**Ladder, 21′ 3″ long, with Platforms, Handrails and Stays for Three-Unit Searchlight Signal without Marker**	B–10313–433
152944	**4**	**Ladder with Foot, 13′ 2″ long, with Stays, for One-Unit Searchlight Signal without Marker**	B–10313–442
62563	**5**	**Ladder Foundation Pier** with Two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
119794	**6**	**Handrail for 5″ Pipe** for 2 and 3	B–7501–75
150198	**7**	**Platform for 5″ Pipe (3′-0½″ Centers)** with four ½″x1″ Sq. Hd. Bolts and Sq. Nuts	B–7501–90
149959	**8**	**Platform for 5″ Pipe (3′ 6″ Centers)** with four ½″ x1″ Sq. Hd. Bolts and Sq. Nuts	B–7501–90
150946	**9**	**Platform for 5″ Pipe (3′ 11″ Centers)** with four ½″ x1″ Sq. Hd. Bolts and Sq. Nuts	B–7501–90
152942	**10**	**Top Stay for 5″ Casing (10″ Centers)**	B–7501–34
97206	**11**	**Stay for 5″ Casing (15¼″ Center)**	B–7501–66
92947	**12**	**Stay for 5″ Casing (21½″ Centers)**	B–7501–51
150211	**13**	**Brace**	B–8365–81
139	**14**	**Rung for Ladders**	B–8365–1

PLATE B-2860

UNION SWITCH & SIGNAL COMPANY



CLAMPS FOR ATTACHING SIGNAL UNITS TO MAST

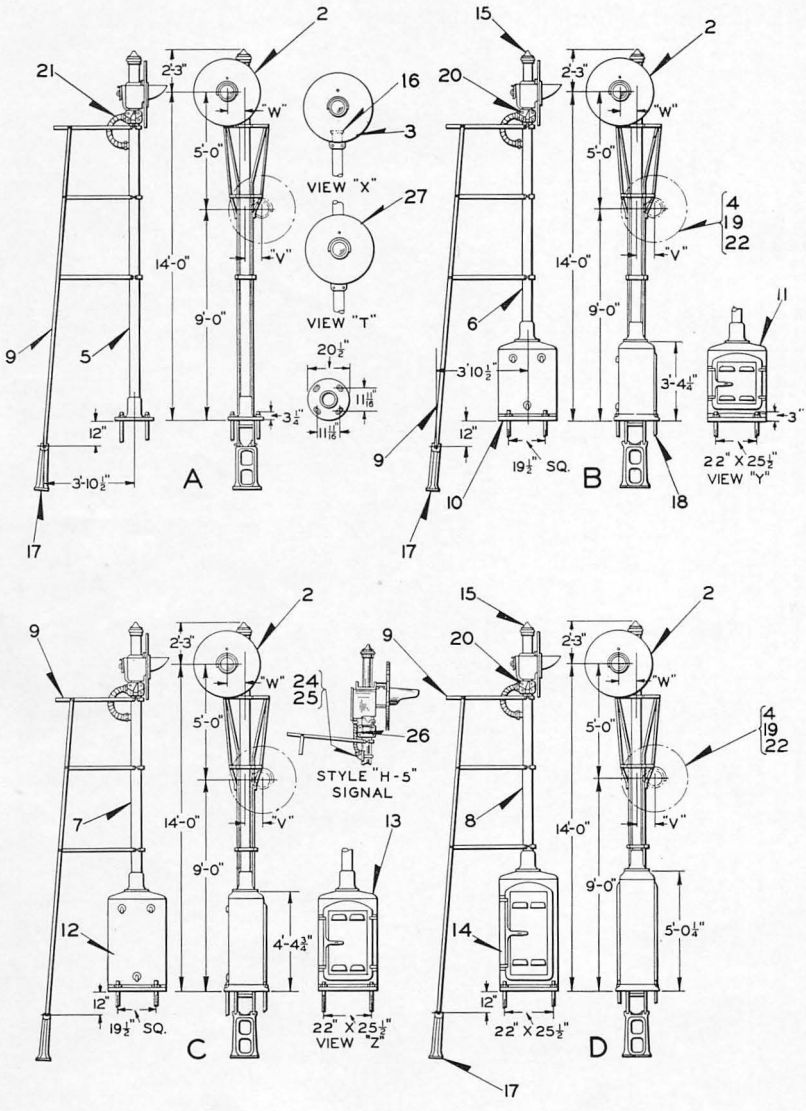
UNION SWITCH & SIGNAL COMPANY

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
BRACKETS FOR ATTACHING SEARCHLIGHT SIGNAL AND MARKER LIGHT TO POST

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only.

Piece	Ref.	Description	Drawing Reference
144207	**A**	**Adjusting Bracket for side of Mast Application with Bolts, Washers and Nuts**	C–9105–5
147517	**B**	**Supporting Bracket for Front of Mast Application with Bolts, Washers and Nuts**	C–9105–9
149919	**C**	**Supporting Bracket for attaching Marker Light to Mast with Pins, Bolts, Eye Bolt, Nuts and Washers**	C–8964–65
144205	**2**	**Supporting Bracket**	C–9105–3
147489	**3**	**Adjusting Bracket for A**	C–9105–8
147483	**4**	**Adjusting Bracket for B**	C–9105–7
81667	**5**	**Bolt**	8479–196
80821	**6**	**Washer**	7826–20
149918	**7**	**Supporting Arm**	C–8964–69
125752	**8**	**Supporting Bracket**	C–8964–25
148525	**9**	**Adjusting Bracket**	C–8964–65
16458	**10**	**Pin with $\frac{3}{16}$″x1$\frac{1}{8}$″ Cotters**	B–10216–1
24289	**11**	**Pin with $\frac{1}{8}$″x$\frac{3}{4}$″ Cotters**	B–10215–1
125826	**12**	**Eye Bolt**	8034–66
	13	**Washer, Std. $\frac{5}{8}$″ Plate** (Cad. Pl.)	
	14	**Jam Nut, 1″ Hex.** (Cad. Pl.)	
	15	**Cotter, $\frac{1}{4}$″x1$\frac{1}{2}$″ S.** (Cad. Pl.)	
97657	**16**	**U-Bolt with $\frac{3}{4}$″ Hex. Nuts for 5″ Casing**	8782–66
43931	**16a**	**U-Bolt with $\frac{3}{4}$″ Hex. Nuts for 5″ Pipe**	8782–66
44199	**16b**	**U-Bolt with $\frac{3}{4}$″ Hex. Nuts for 6″ Pipe**	9782–69

MEMORANDA



One Unit, Styles "H", "H-2" and "H-5" Searchlight Ground Signals

One Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

Unless otherwise specified, signals will be furnished with 250-Ohm operating unit, Reference A, Plate B-2885 for Style "H" Signal, Reference A, Plate B-2888 for Style "H-2" Signal and Reference A, Plate B-2889-3 for Style "H-5" Signal. If signals of different dimensions than those shown are desired orders should so state.

Markers as shown on Plates B-2894 and B-2895 should be specified when required.

Inoperative signal units are shown on Plates B-2880, B-2881, B-2884 and B-2891 When Cable Outlets are required for Instrument Cases, orders should refer to Plate B-2898.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

One Unit, 3-Indication, Style.... Searchlight Ground Signal, with Ladder, Mast, Foundation Bolts, Bracket, 250-Ohm Operating Unit and Lamp. Orders should specify lamp (Plate B-2878). If front top of mast mounting (View "X") or front of mast mounting (View "T") is desired, orders should so state.

Piece	Ref.	Style	"W" Dim.	Remarks	Drawing Reference
	A	"H"	9″		B–12609–
	Aa	"H-2	9″		B–12609–
	Aaa	"H-5"	$9\frac{15}{16}$″		B–12609–

One Unit, 3-Indication, Style.... Searchlight Ground Signal, with Ladder, Mast, Foundation Bolts, Instrument Case, Bracket, 250-Ohm Operating Unit and Lamp. Orders should specify lamp (Plate B-2878) and instrument case (Section "L" Catalog). If front top of mast mounting (View "X") or front of mast mounting (View "T") is desired, orders should so state.

Piece	Ref.	Style	Instrument Case	Foundation Bolt Spacing	"W" Dim.	Re-marks	Drawing Reference
	B	"H"	Single Door	As shown	9″		B–12609–
	Ba	"H-2"	Single Door	As shown	9″		B–12609–
	Baa	"H-5"	Single Door	As shown	$9\frac{15}{16}$″		B–12609–
	Bb	"H"	Double Door	Per View "Y"	9″		B–12609–
	Bc	"H-2"	Double Door	Per View "Y"	9″		B–12609–
	Bcc	"H-5"	Double Door	Per View "Y"	$9\frac{15}{16}$″		B–12609–
	C	"H"	Single Door	As shown	9″		B–12609–
	Ca	"H-2"	Single Door	As shown	9″		B–12609–

One Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Style	Instrument Case	Foundation Bolt Spacing	"W" Dim.	Remarks	Drawing Reference
	Caa	"H-5"	Single Door	As shown	$9\frac{15}{16}$"		B–12609–
	Cb	"H"	Double Door	Per View "Z"	9"		B–12609–
	Cc	"H-2"	Double Door	Per View "Z"	9"		B–12609–
	Ccc	"H-5"	Double Door	Per View "Z"	$9\frac{15}{16}$"		B–12609–
	D	"H"	Double Door	As shown	9"		B–12609–
	Da	"H-2"	Double Door	As shown	9"		B–12609–
	Daa	"H-5"	Double Door	As shown	$9\frac{15}{16}$"		B–12609–

Piece	Ref.	Description	Drawing Reference
	2	**D.C. Style "H" Color Light Searchlight Signal Unit** for 5" Pipe with operating unit, lamp, background, bracket for side of Mast mounting, U-bolts and flexible conduit (refer to Plate B-2880 for ordering references)	C–9104–2
	2a	**D.C. Style "H-2" Color Light Searchlight Signal Unit** for 5" Pipe, with operating unit, lamp, background, bracket for side of Mast mounting, U-bolts and flexible conduit (refer to Plate B-2881 for ordering references)	C–9104–7
	2b	**D.C. Style "H-5" Color Light Searchlight Signal Unit** for 5" Pipe, with operating unit, lamp, background, bracket for side of Mast mounting, U-bolts and flexible conduit (refer to Plate B-2882 for ordering references)	C–16674–2
	3	**D.C. Style "H" Color Light Searchlight Signal Unit** for 5" Pipe with operating unit, lamp, background, bracket for front top of Mast mounting, U-bolts and flexible conduit (refer to Plate B-2880 for ordering references)	C–9104–3
	3a	**D.C. Style "H-2" Color Light Searchlight Signal Unit** for 5" Pipe, with operating unit, lamp, background, bracket for front top of Mast mounting, U-bolts and flexible conduit (refer to Plate B-2881 for ordering references)	C–9104–6

One Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	3b	**D.C. Style "H-5" Color Light Searchlight Signal Unit** for 5″ Pipe, with operating unit, lamp, background, bracket for front, side or front top of Mast mounting, U-bolts and flexible conduit (refer to Plate B-2882 for ordering references)	C–16674–2
	4	**Marker Light** ("V" dim. 9″) (When ordering refer to Plates B-2894 and B-2895)	C–8965–
	4a	**Style "H" or 'H'-2" Inoperative Unit** ("V" dim. 9″) (When ordering refer to Plates B-2880, B-2881 and B-2891)	
	4b	**Style "H-5" Inoperative Unit** ("V" dim. $9\frac{15}{16}$″) (When ordering refer to Plate B-2884)	C–16674–4
181616	5	**Mast, 5″ Pipe Complete with Base,** 15′-11½″ from Bottom of Base to Top of Mast for Refs. A and Aa.	B–9893–182
169273	5a	**Mast, 5″ Pipe Complete with Base,** 12′-11½″ from Bottom of Base to Top of Mast for mounting "H" and "H-2" Units at front top of mast	B–9893–213
106874	5b	**Mast, 5″ Pipe Complete with Base,** 15′-11½″ from Bottom of Base to Top of Mast for Ref. Aaa	B–9893–411
	5c	**Mast, 5″ Pipe Complete with Base,** 12′-11½″ from Bottom of Base to Top of Mast for mounting "H-5" Unit at front top of mast	B–9893–
181643	6	**Mast, 5″ Pipe Complete with Base,** 12′-7½″ from Bottom of Base to Top of Mast for Refs. B, Ba, Bb and Bc	B–9893–230
168729	6a	**Mast, 5″ Pipe Complete with Base,** 9′-8½″ from Bottom of Base to Top of Mast for mounting "H" and "H-2" Units at front top of mast	B–9893–232
	6b	**Mast, 5″ Pipe Complete with Base,** 12′-7½″ from Bottom of Base to Top of Mast, for Refs. Baa and Bcc	B–9893–412
	6c	**Mast, 5″ Pipe Complete with Base,** 9′-8½″ from Bottom of Base to Top of Mast for mounting "H-5" Unit at front top of mast	B–9893–

One Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
181662	**7**	**Mast, 5″ Pipe Complete with Base,** 11′-6½″ from Bottom of Base to Top of Mast for Refs. C, Ca, Cb and Cc	B–9893–230
	7a	**Mast, 5″ Pipe Complete with Base,** 8′-8″ from Bottom of Base to Top of Mast for mounting "H" and "H-2" Units at front top of mast	B–9893–
	7b	**Mast, 5″ Pipe Complete with Base,** 11′-6½″ from Bottom of Base to Top of Mast for Refs. Caa and Ccc	B–9893–
	7c	**Mast, 5″ Pipe Complete with Base,** 8′-8″ from Bottom of Base to Top of Mast for mounting "H-5" Unit at front top of mast	B–9893–
181663	**8**	**Mast, 5″ Pipe Complete with Base,** 10′-11½″ from Bottom of Base to Top of Mast for Refs. D and Da	B–9893–230
	8a	**Mast, 5″ Pipe Complete with Base,** 8′-0½″ from Bottom of Base to Top of Mast for mounting "H" and "H-2" Units at front top of mast	B–9893–
	8b	**Mast, 5″ Pipe Complete with Base,** 10′-11½″ from Bottom of Base to Top of Mast for Ref. Daa	B–9893–
	8c	**Mast, 5″ Pipe Complete with Base,** 8′-0½″ from Bottom of Base to Top of Mast for mounting "H-5" Unit at front top of mast	B–9893–
181644	**9**	**Ladder Complete with Platform and Handrail,** 13′-6″ long, for Refs. A to Daa inclusive (For details refer to Plate B-2900)	B–10313–345
	10	**Single Door Instrument Case** (3′-4¼″) for Refs. B, Ba and Baa (When ordering refer to Section "L" Catalog)	C–7589–6
	11	**Double Door Instrument Case** (3′-4¼″) for Refs. Bb, Bc and Bcc (When ordering refer to Section "L" Catalog)	C–7589–7
	12	**Single Door Instrument Case** (4′-4¾″) for Refs. C, Ca and Caa (When ordering refer to Section "L" Catalog)	C–7589–23

One Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(**Continued**)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	13	**Double Door Instrument Case** (4′-4¾″) for Refs. Cb, Cc and Ccc (When ordering refer to Section "L" Catalog)	C–7589–28
	14	**Double Door Instrument Case** (5′-0¼″) for Refs. D, Da and Daa (When ordering refer to Section "L" Catalog)	C–7589–38
150818	15	**Pinnacle Complete** with Set Screw	B–8121–17
161777	16	**Pipe Cap** for Front Top of Mast Application only, with two $\frac{5}{16}$″-18x¾″ Hex. Hd. Tap Bolts (Cad. Pl.)	B–9931–5
62563	17	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
10276	18	**Foundation Bolt,** 1″x3′-0″ with Hex. Nut and Plate Washer	7913–54
149919	19	**Adjusting Bracket** for Marker Lights for 5″ and 6″ Pipe (Without U-bolts) For details refer to Plate B-2896	C–8964–65
43931	20	**U-bolt** with ¾″ Hex. Nuts for 5″ Pipe	8782–66
44199	20a	**U-bolt** with ¾″ Hex. Nuts for 6″ Pipe	8782–69
	21	**Conduit,** 1½″ Galv. S.S. Flexible, 2′-4″ long, with Box Connector and Union.	
	22	**Conduit,** ¾″ Galv. S.S. Flexible, 2′-6″ long, with Box Connector and Union for Marker Light.	
	23	**Lamp,** (Not shown) when ordering refer to Plate B-2878	B–12409–
107225	24	**Cable Outlet Complete** with Gasket Ref. 24a and solid pipe cap	B–10342–114
127117	24a	**Gasket** for Ref. 24	8078–942
46567	25	**U-bolt** with ½″ Hex. Nuts, for 5″ Pipe, for Ref. 24	8782–77
	26	**Conduit,** 2″ Galv. S.S. Flexible, 16¾″ long.	

One Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	27	**D.C. Style "H" Color Light Searchlight Signal Unit** for 5″ Pipe, with operating unit, lamp, background, bracket for front or side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2880 for ordering references)	C–9104–3
	27a	**D.C. Style "H-2" Color Light Searchlight Signal Unit** for 5″ Pipe, with operating unit, lamp, background, bracket for front or side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2881 for ordering references)	C–9104–6

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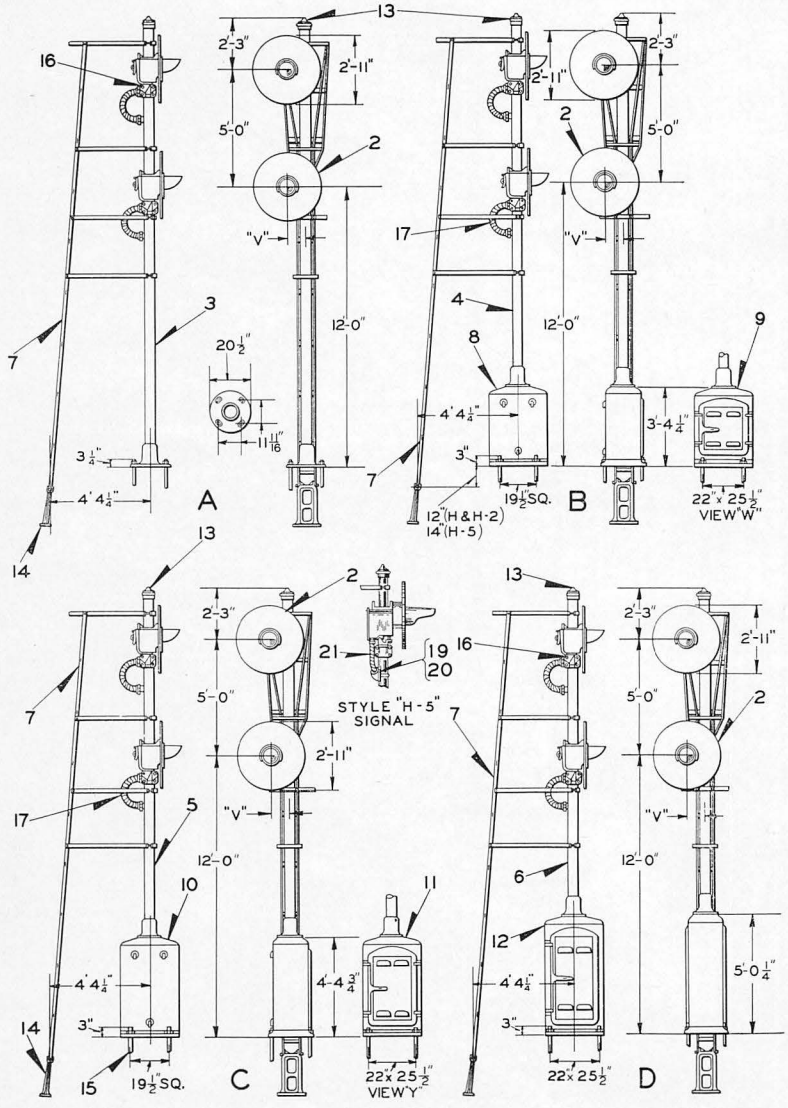

Two Unit, Styles "H", "H-2" and "H-5" Searchlight Ground Signals

Two Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

Unless otherwise specified, signals will be furnished with 250-Ohm operating unit, Reference A, Plate B-2885 for Style "H" Signal, Reference A, Plate B-2888 for Style "H-2" Signal and Reference A, Plate B-2889-3 for Style "H-5" Signal. If signals of different dimensions than those shown are desired orders should so state.

Markers as shown on Plates B-2894 and B-2895 should be specified when required.

Inoperative signal units are shown on Plates B-2880, B-2881, B-2884 and B-2891.

When Cable Outlets are required for Instrument Cases, orders should refer to Plate B-2898.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Two-Unit, 3-Indication, Style. . . . Searchlight Ground Signal, with Ladder, Mast, Foundation Bolts, Brackets, 250-Ohm Operating Units and Lamps. Orders should specify lamps (Plate B-2878).

Piece	Ref.	Style	"V" Dim.	Remarks	Drawing Reference
	A	"H"	9″		B–12609–
	Aa	"H-2"	9″		B–12609–
	Aaa	"H-5"	$9\frac{15}{16}$″		B–12609–

Two-Unit, 3-Indication, Style. . . . Searchlight Ground Signal, with Ladder, Mast, Foundation Bolts, Brackets, Instrument Case, 250-Ohm operating Units, and Lamps. Orders should specify lamps (Plate B-2878) and instrument case (Section "L" Catalog).

Piece	Ref.	Style	Instrument Case	Foundation Bolt Spacing	"V" Dim.	Re-marks	Drawing Reference
	B	"H"	Single Door	As shown	9″		B–12609–
	Ba	"H-2"	Single Door	As shown	9″		B–12609–
	Baa	"H-5"	Single Door	As shown	$9\frac{15}{16}$″		B–12609–
	Bb	"H"	Double Door	Per View "W"	9″		B–12609–
	Bc	"H-2"	Double Door	Per View "W"	9″		B–12609–
	Bcc	"H-5"	Double Door	Per View "W"	$9\frac{15}{16}$″		B–12609–
	C	"H"	Single Door	As shown	9″		B–12609–
	Ca	"H-2"	Single Door	As shown	9″		B–12609–
	Caa	"H-5"	Single Door	As shown	$9\frac{15}{16}$″		B–12609–

Two Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Style	Instrument Case	Foundation Bolt Spacing	"V" Dim.	Remarks	Drawing Reference
	Cb	"H"	Double Door	Per View "Y"	9″		B–12609–
	Cc	"H-2"	Double Door	Per View "Y"	9″		B–12609–
	Ccc	"H-5"	Double Door	Per View "Y"	9 15/16″		B–12609–
	D	"H"	Double Door	As shown	9″		B–12609–
	Da	"H-2"	Double Door	As shown	9″		B–12609–
	Daa	"H-5"	Double Door	As shown	9 15/16″		B–12609–

Piece	Ref.	Description	Drawing Reference
	2	**D.C. Style "H" Color Light Searchlight Signal Unit,** for 5″ Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2880 for ordering references)	C–9104–2
	2a	**D.C. Style "H-2" Color Light Searchlight Signal Unit,** for 5″ Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2881 for ordering references)	C–9104–7
	2b	**D.C. Style "H-5" Color Light Searchlight Signal Unit,** for 5″ Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2882 for ordering references)	C–16674–2
164597	**3**	**Mast, 5″ Pipe Complete with Base,** 18′-11½″ from bottom of base to top of mast, for Refs. A and Aa	B–9893–155
	3a	**Mast, 5″ Pipe Complete with Base,** 18′-11½″ from bottom of base to top of mast, for Ref. Aaa	B–9893–
181681	**4**	**Mast, 5″ Pipe Complete with Base,** 15′-7″ from bottom of base to top of mast, for Refs. B, Ba, Bb and Bc	B–9893–259
	4a	**Mast, 5″ Pipe Complete with Base,** 15′-7″ from bottom of base to top of mast, for Refs. Baa and Bcc	B–9893–

Two Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
181682	**5**	**Mast, 5″ Pipe Complete with Base,** 14′-7″ from bottom of base to top of mast, for Refs. C, Ca, Cb and Cc	B–9893–259
	5a	**Mast, 5″ Pipe Complete with Base,** 14′-7″ from bottom of base to top of mast, for Refs. Caa and Ccc	B–9893–
169647	**6**	**Mast, 5″ Pipe Complete with Base,** 13′-11″ from bottom of base to top of mast, for Refs. D and Da.	B–9893–259
	6a	**Mast, 5″ Pipe Complete with Base,** 13′-11″ from bottom of base to top of mast, for Ref. Daa	B–9893–
164614	**7**	**Ladder Complete with Platform, Hand Rail and Braces,** 19′-3″ long, for Refs. A to Daa inclusive (For details refer to Plate B-2900)	B–10313–475
	8	**Single Door Instrument Case** (3′-4¼″) for Refs. B, Ba and Baa (When ordering refer to Section L Catalog)	C–7589–6
	9	**Double Door Instrument Case** (3′-4¼″) for Refs. Bb, Bc and Bcc (When ordering refer to Section L Catalog)	C–7589–7
	10	**Single Door Instrument Case** (4′-4¾″) for Refs. C, Ca and Caa (When ordering refer to Section L Catalog)	C–7589–23
	11	**Double Door Instrument Case** (4′-4¾″) for Refs. Cb, Cc and Ccc (When ordering refer to Section L Catalog)	C–7589–28
	12	**Double Door Instrument Case** (5′-0-¼″) for Refs. D, Da, and Daa (When ordering refer to Section L Catalog)	C–7589–38
150818	**13**	**Pinnacle Complete** with Set Screw	B–8121–17
62563	**14**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
10276	**15**	**Foundation Bolt,** 1″x3′-0″ with Hex. Nut and Plate Washer	7913–54

Two Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
43931	**16**	**U-bolt with ¾" Hex. Nuts,** for 5" Pipe	8782–66
44199	**16a**	**U-bolt with ¾" Hex. Nuts,** for 6" Pipe	8782–69
	17	**Conduit,** 1½" Galv. S.S. Flexible, 2'-4" long with Box Connector and Union.	
	18	**Lamp** (Not shown) (when ordering refer to Plate B-2878)	B–12409–
107225	**19**	**Cable Outlet Complete** with Gasket Ref. 19a and solid pipe cap	B–10342–114
127117	**19a**	**Gasket** for Ref. 19	8078–942
46567	**20**	**U-bolt with ½" Hex. Nuts,** for 5" Pipe, for Ref. 19	8782–77
	21	**Conduit,** 2" Galv. S.S. Flexible, 16¾" long.	

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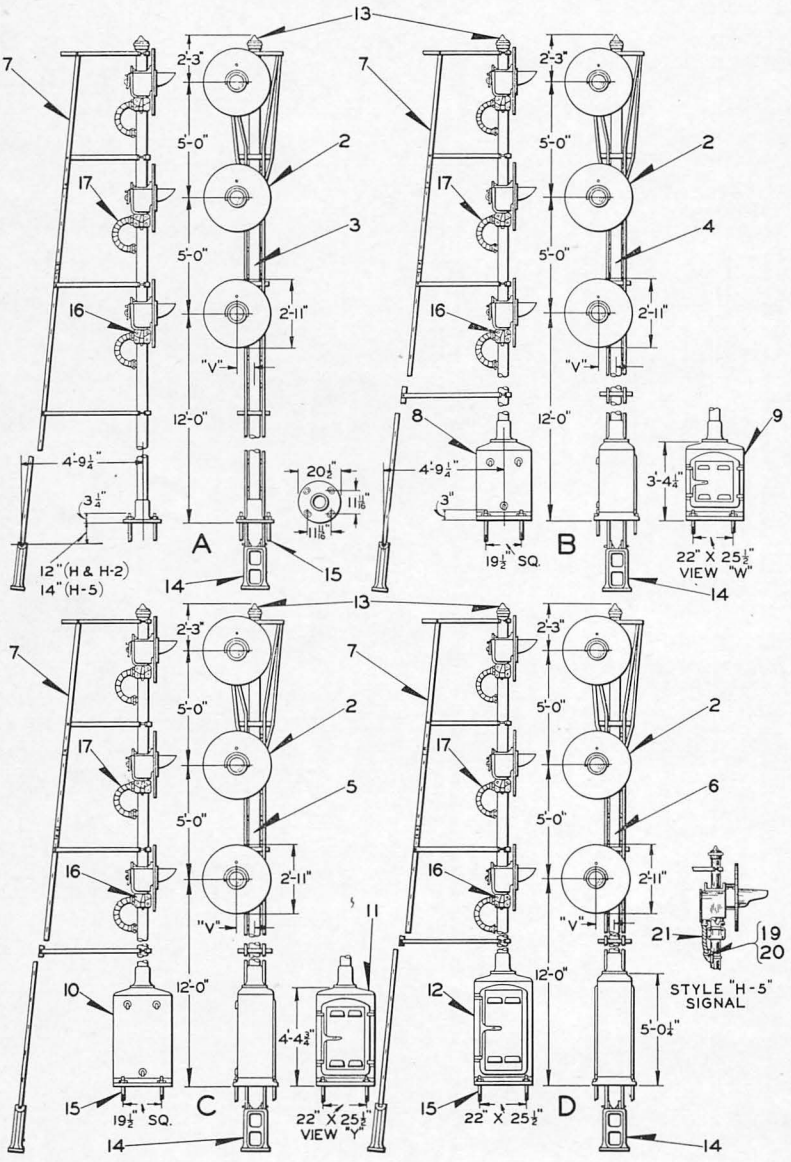

Three Unit, Styles "H", "H-2" and "H-5" Searchlight Ground Signals

Three Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

Unless otherwise specified, signals will be furnished with 250-Ohm operating unit, Reference A, Plate B-2885 for Style "H" Signal, Reference A, Plate B-2888 for Style "H-2" Signal and Reference A, Plate B-2889-3 for Style "H-5" Signal. If signals of different dimensions than those shown are desired orders should so state.

Markers as shown on Plates B-2894 and B-2895 should be specified when required.

Inoperative signal units are shown on Plates B-2880, B-2881, B-2884 and B-2891. When Cable Outlets are required for instrument cases orders should refer to Plate B-2898.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Three-Unit, 3-Indication, Style.... Searchlight Ground Signal, with Ladder, Mast, Foundation Bolts, Brackets, 250-Ohm Operating Units and Lamps. Orders should specify lamps (Plate B-2878).

Piece	Ref.	Style	"V" Dim.	Remarks	Drawing Reference
	A	"H"	9″		B–12609–
	Aa	"H-2"	9″		B–12609–
	Aaa	"H-5"	$9\frac{15}{16}$″		B–12609–

Three-Unit, 3-Indication, Style.... Searchlight Ground Signal, with Ladder, Mast, Foundation Bolts, Brackets, Instrument Case, 250-Ohm Operating Units, and Lamps. Orders should specify lamps (Plate B-2878) and instrument case (Section "L" Catalog).

Piece	Ref.	Style	Instrument Case	Foundation Bolt Spacing	"V" Dim.	Remarks	Drawing Reference
	B	"H"	Single Door	As shown	9″		B–12609–
	Ba	"H-2"	Single Door	As shown	9″		B–12609–
	Baa	"H-5"	Single Door	As shown	$9\frac{15}{16}$″		B–12609–
	Bb	"H"	Double Door	Per View "W"	9″		B–12609–
	Bc	"H-2"	Double Door	Per View "W"	9″		B–12609–
	Bcc	"H-5"	Double Door	Per View "W"	$9\frac{15}{16}$″		B–12609–
	C	"H"	Single Door	As shown	9″		B–12609–
	Ca	"H-2"	Single Door	As shown	9″		B–12609–
	Caa	"H-5"	Single Door	As shown	$9\frac{15}{16}$″		B–12609–
	Cb	"H"	Double Door	Per View "Y"	9″		B–12609–

Three Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Style	Instrument Case	Foundation Bolt Spacing	"V" Dim.	Remarks	Drawing Reference
	Cc	"H-2"	Double Door	Per View "Y"	9″		B–12609–
	Ccc	"H-5"	Double Door	Per View "Y"	9 15/16″		B–12609–
	D	"H"	Double Door	As shown	9″		B–12609–
	Da	"H-2"	Double Door	As shown	9″		B–12609–
	Daa	"H-5"	Double Door	As shown	9 15/16″		B–12609–

Piece	Ref.	Description	Drawing Reference
	2	**D.C. Style "H" Color Light Searchlight Signal Unit** for 5″ Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2880 for ordering references)	C–9104–2
	2a	**D.C. Style "H-2" Color Light Searchlight Signal Unit** for 5″ Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2881 for ordering references)	C–9104–7
	2b	**D.C. Style "H-5" Color Light Searchlight Signal Unit** for 5″ Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2882 for ordering references)	C–16674–2
161318	3	**Mast, 5″ Pipe Complete with Base,** 23′-11½″ from bottom of base to top of mast, for Refs. A and Aa	B–9893–159
	3a	**Mast, 5″ Pipe Complete with Base,** 23′-11½″ from bottom of base to top of mast, for Ref. Aaa	B–9893–
181648	4	**Mast, 5″ Pipe Complete with Base,** 20′-7½″ from bottom of base to top of mast, for Refs. B, Ba, Bb and Bc	B–9893–240
	4a	**Mast, 5″ Pipe Complete with Base,** 20′-7½″ from bottom of base to top of mast, for Refs. Baa and Bcc	B–9893–

Three Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
181647	**5**	**Mast, 5″ Pipe Complete with Base,** 19′-7″ from bottom of base to top of mast, for Refs. C, Ca, Cb and Cc	B–9893–240
	5a	**Mast, 5″ Pipe Complete with Base,** 19′-7″ from bottom of base to top of mast, for Refs. Caa and Ccc	B–9893–
181646	**6**	**Mast, 5″ Pipe Complete with Base,** 18′-11″ from bottom of base to top of mast, for Refs. D and Da.	B–9893–240
	6a	**Mast, 5″ Pipe Complete with Base,** 18′-11″ from bottom of base to top of mast, for Ref. Daa	B–9893–
161324	**7**	**Ladder Complete with Platforms, Handrails and Braces,** 24′-3″ long (For details refer to Plate B-2900) For Styles "H" and "H-2" Signals	B–10313–466
216991	**7a**	**Ladder Complete with Platforms, Handrails and Braces,** 24′-3″ long (For details refer to Plate B-2900) For Style "H-5" Signals	B–10313–466
	8	**Single Door Instrument Case** (3′-4¼″) for Refs. B, Ba and Baa (When ordering refer to Section "L" Catalog)	C–7589–6
	9	**Double Door Instrument Case** (3′-4¼″) for Refs. Bb, Bc and Bcc (When ordering refer to Section "L" Catalog)	C–7589–7
	10	**Single Door Instrument Case** (4′-4¾″) for Refs. C, Ca and Caa (When ordering refer to Section "L" Catalog)	C–7589–23
	11	**Double Door Instrument Case** (4′-4¾″) for Refs. Cb, Cc and Ccc (When ordering refer to Section "L" Catalog)	C–7589–28
	12	**Double Door Instrument Case** (5′-0-¼″) for Refs. D, Da and Daa (When ordering refer to Section "L" Catalog)	C–7589–38
150818	**13**	**Pinnacle Complete** with Set Screw	B–8121–17
62563	**14**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10

Three Unit, Styles "H", "H-2" and "H-5" Three-Position Color Light Searchlight Ground Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
10276	**15**	**Foundation Bolt,** 1″x3′-0″ with Hex. Nut and Plate Washer	7913–54
43931	**16**	**U-bolt** with ¾″ Hex. Nuts, for 5″ Pipe	8782–66
44199	**16a**	**U-bolt** with ¾″ Hex. Nuts, for 6″ Pipe	8782–69
	17	**Conduit,** 1½″ Galv. S.S. Flexible 2′-4″ long with Box Connector and Union.	
	18	**Lamp** (Not shown) (when ordering refer to Plate B-2878)	B–12409–
107225	**19**	**Cable Outlet Complete** with Gasket Ref. 19a and solid pipe cap	B–10342–114
127117	**19a**	**Gasket** for Ref. 19	8078–942
46567	**20**	**U-bolt** with ½″ Hex. Nuts, for 5″ Pipe, for Ref. 19.	8782–77
	21	**Conduit,** 2″ Galv. S.S. Flexible, 16¾″ long.	

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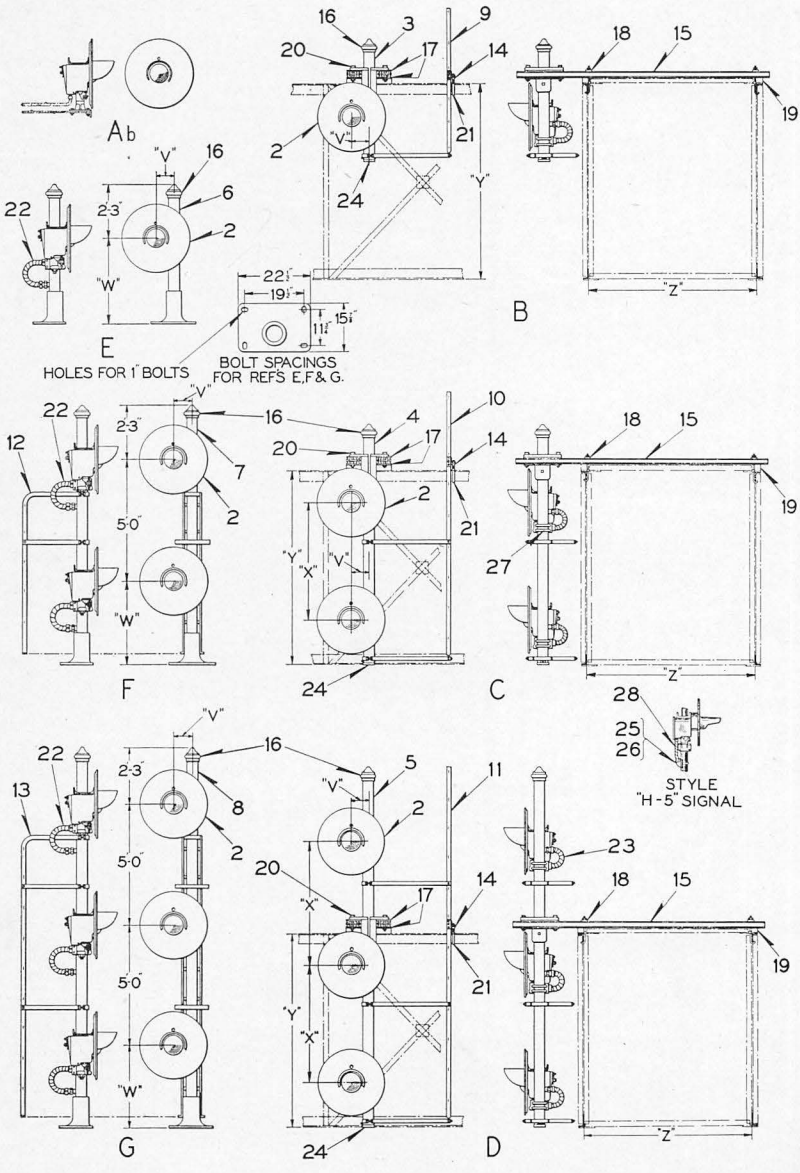

Styles "H", "H-2" and "H-5" Searchlight Bridge Signals

One, Two and Three Unit, Styles "H", "H-2" and "H-5" Three-Position, Color Light Searchlight Bridge Signals

Unless otherwise specified, signals will be furnished with 250-Ohm operating unit, Reference A, Plate B-2885 for Style "H" signal, Reference A, Plate B-2888 for Style "H-2" signal, and Reference A, Plate B-2889-3 for Style "H-5" signal. If signals of different dimensions than those shown are desired orders should so state.

Markers as shown on Plates B-2894 and B-2895 should be specified when required.

Inoperative signal units are shown on Plates B-2880, B-2881, B-2884 and B-2891. Orders for complete signals or details should be accompanied with dimensioned plan or sketch of bridge or main bracket post.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	Ab	**One Unit, Three Position Style "H" Color Light Searchlight Bridge Signal Complete** with operating unit, background, conduit and lamp. Orders should specify lamp (Plate B-2878). For details of signal refer to Plate B-2875	C–8987–
	Ac	**One Unit, Three Position Style "H-2" Color Light Searchlight Bridge Signal Complete** with operating unit, background and lamp. Orders should specify lamp (Plate B-2878). For details of signal refer to Plate B-2875	C–8987–
	Ad	**One Unit, Three Position Style "H-5" Color Light Searchlight Bridge Signal Complete** with operating unit, background, and lamp. Orders should specify lamp (Plate B-2878). For details of signal refer to Plate B-2882	C–16674–2
	B	**One Unit, Three Position Style "H" Color Light Searchlight Bridge Signal Complete** as shown, with mast, operating unit, lamp, ladder and bolts, "V" dimension 9″. When ordering, specify distance from top of bridge to center of lens; also "Z" dimension and lamp (Plate B-2878)	C–8987–
	Ba	**One Unit, Three Position Style "H-2" Color Light Searchlight Bridge Signal Complete,** with mast, operating unit, lamp, ladder and bolts, "V" dimension 9″. When ordering, specify distance from top of bridge to center of lens; also "Z" dimension and lamp (Plate B-2878)	C–8987–
	Bb	**One Unit, Three Position Style "H-5" Color Light Searchlight Bridge Signal Complete,** with mast, operating unit, lamp, ladder and bolts, "V" dimension $9\frac{15}{16}$″. When ordering, specify distance from top of bridge to center of lens; also "Z" dimension and lamp (Plate B-2878)	C–8987–

One, Two and Three Unit, Styles "H", "H-2" and "H-5" Three-Position, Color Light Searchlight Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	C	**Two Unit, Three Position Style "H" Color Light Searchlight Bridge Signal Complete** as shown, with mast, operating units, lamps, ladder and bolts, "V" dimension 9″. When ordering, "Y" and "Z" dimensions should always be specified; unless otherwise specified "X" dimension will be 5′-0″; also specify lamps (Plate B-2878).....	C–8987–
	Ca	**Two Unit, Three Position Style "H-2" Color Light Searchlight Bridge Signal Complete,** with mast, operating units, lamps, ladder and bolts, "V" dimension 9″. When ordering, "Y" and "Z" dimensions should always be specified; unless otherwise specified "X" dimension will be 5′-0″; also specify lamps (Plate B-2878).....	C–8987–
	Cb	**Two Unit, Three Position Style "H-5" Color Light Searchlight Bridge Signal Complete,** with mast, operating units, lamps, ladder and bolts, "V" dimension 9 15/16″. When ordering, "Y" and "Z" dimensions should always be specified; unless otherwise specified "X" dimension will be 5′-0″; also specify lamps (Plate B-2878).....	C–8987–
	D	**Three Unit, Three Position Style "H" Color Light Searchlight Bridge Signal Complete** as shown, with mast, operating units, lamps, ladder and bolts, "V" dimension 9″. When ordering, "Y" and "Z" dimensions should always be specified; unless otherwise specified "X" dimension will be 5′-0″; also specify lamps (Plate B-2878).....	C–8987–
	Da	**Three Unit, Three Position Style "H-2" Color Light Searchlight Bridge Signal Complete,** with mast, operating units, lamps, ladder and bolts, "V" dimension 9″. When ordering, "Y" and "Z" dimensions should always be specified; unless otherwise specified "X" dimension will be 5′-0″; also specify lamps (Plate B-2878).....	C–8987–
	Db	**Three Unit, Three Position Style "H-5" Color Light Searchlight Bridge Signal Complete,** with mast, operating units, lamps, ladder and bolts, "V" dimension 9 15/16″. When ordering, "Y" and "Z" dimensions should always be specified; unless otherwise specified "X" dimension will be 5′-0″; also specify lamps (Plate B-2878).....	C–8987–

One, Two and Three Unit, Styles "H", "H-2" and "H-5" Three-Position, Color Light Searchlight Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
182036	**E**	**One Unit, Three Position Style "H" Color Light Searchlight Bracket Signal Complete** as shown, with mast, operating unit, lamp and ladder, "V" dimension 9″, "W"—3′-6″. Orders should specify lamp (Plate B-2878)	B–12609–62
	Ea	**One Unit, Three Position Style "H-2" Color Light Searchlight Bracket Signal Complete,** with mast, operating unit, lamp and ladder, "V" dimension 9″, "W"—3′-6″. Orders should specify lamp (Plate B-2878)	B–12609–62
	Eb	**One Unit, Three Position Style "H-5" Color Light Searchlight Bracket Signal Complete,** with mast, operating unit, lamp and ladder, "V" dimension $9\frac{15}{16}$″, "W"—4′-0″. Orders should specify lamp (Plate B-2878)	B–12609–
182046	**F**	**Two Unit, Three Position Style "H" Color Light Searchlight Bracket Signal Complete** as shown, with mast, operating units, lamps and ladder, "V" dimension 9″, "W"—3′-6″. Orders should specify lamps (Plate B-2878)	B–12609–63
	Fa	**Two Unit, Three Position Style "H-2" Color Light Searchlight Bracket Signal Complete,** with mast, operating units, lamps and ladder, "V" dimension 9″. "W"—3′-6″. Orders should specify lamps (Plate B-2878)	B–12609–63
	Fb	**Two Unit, Three Position Style "H-5" Color Light Searchlight Bracket Signal Complete,** with mast, operating units, lamps and ladder, "V" dimension $9\frac{15}{16}$″, "W"—4′-0″. Orders should specify lamps (Plate B-2878)	B–12609–
182050	**G**	**Three Unit, Three Position Style "H" Color Light Searchlight Bracket Signal Complete** as shown, with mast, operating units, lamps and ladder, "V" dimension 9″, "W"—3′-6″. Orders should specify lamps (Plate B-2878)	B–12609–64
	Ga	**Three Unit, Three Position Style "H-2" Color Light Searchlight Bracket Signal Complete,** with mast, operating units, lamps and ladder, "V" dimension 9″, "W"—3′-6″. Orders should specify lamps (Plate B-2878)	B–12609–64

One, Two and Three Unit, Styles "H", "H-2" and "H-5" Three-Position, Color Light Searchlight Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	Gb	**Three Unit, Three Position Style "H-5" Color Light Searchlight Bracket Signal Complete,** with mast, operating units, lamps and ladder, "V" dimension $9\frac{15}{16}$", "W"—4'-0". Orders should specify lamps (Plate B-2878)	B–12609–
	2	**D.C. Style "H" Color Light Searchlight Signal Unit,** for 5" Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2880 for ordering references)	C–9104–2
	2a	**D.C. Style "H-2" Color Light Searchlight Signal Unit,** for 5" Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2881 for ordering references)	C–9104–7
	2b	**D.C. Style "H-5" Color Light Searchlight Signal Unit,** for 5" Pipe, with operating unit, lamp, background, bracket for side of mast mounting, U-bolts and flexible conduit (refer to Plate B-2882 for ordering references)	C–16674–2
	3	**Mast, 5" Pipe Complete with Base, Cap, Bolts and Nuts,** for Refs. B and Ba (When ordering specify "Y" dim. of bridge)	B–9893–
	3a	**Mast, 5" Pipe Complete with Base, Cap, Bolts and Nuts,** for Ref. Bb (When ordering specify "Y" dim. of bridge)	B–9893–
	4	**Mast, 5" Pipe Complete with Base, Cap, Bolts and Nuts,** for Refs. C and Ca (When ordering specify "X" and "Y" dimensions)	B–9893–
	4a	**Mast, 5" Pipe Complete with Base, Cap, Bolts and Nuts,** for Ref. Cb (When ordering specify "X" and "Y" dimensions)	B–9893–
	5	**Mast, 5" Pipe Complete with Base, Cap, Bolts and Nuts,** for Refs. D and Da (When ordering specify "X" and "Y" dimensions)	B–9893–
	5a	**Mast, 5" Pipe Complete with Base, Cap, Bolts and Nuts,** for Ref. Db (When ordering specify "X" and "Y" dimensions)	B–9893–

One, Two and Three Unit, Styles "H", "H-2" and "H-5" Three-Position, Color Light Searchlight Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
181959	**6**	**Mast, 5″ Pipe Complete with Base,** 5′-5½″ from bottom of base to top of mast for Refs. E and Ea..	B–9893–301
	6a	**Mast, 5″ Pipe Complete with Base,** 5′-11½″ from bottom of base to top of mast for Ref. Eb.....	B–9893–
182044	**7**	**Mast, 5″ Pipe Complete with Base,** 10′-5½″ from bottom of base to top of mast for Refs. F and Fa.	B–9893–308
	7a	**Mast, 5″ Pipe Complete with Base,** 10′-11½″ from bottom of base to top of mast for Ref. Fb.....	B–9893–
182048	**8**	**Mast, 5″ Pipe Complete with Base,** 15′-5½″ from bottom of base to top of mast for Refs. G and Ga..	B–9893–308
	8a	**Mast, 5″ Pipe Complete with Base,** 15′-11½″ from bottom of base to top of mast for Ref. Gb.....	B–9893–
	9	**Straight Ladder Complete with Platform, Bolts and Nuts,** for Refs. B, Ba and Bb (When ordering refer to Plate B-2900).....	B–10313–505
	10	**Straight Ladder Complete with Platform, Bolts and Nuts,** for Refs. C, Ca and Cb (When ordering refer to Plate B-2900).....	B–10313–505
	11	**Straight Ladder Complete with Platform, Bolts and Nuts,** for Refs. D, Da and Db (When ordering refer to Plate B-2900).....	B–10313–505
182255	**12**	**Ladder Complete with Platform, Bolts and Nuts,** (6′-8″ long) for Refs. F and Fa (For details refer to Plate B-2900).....	B–10313–512
	12a	**Ladder Complete with Platform, Bolts and Nuts,** (6′-9″ long) for Ref. Fb (For details refer to Plate B-2900).....	B–10313–
182251	**13**	**Ladder Complete with Platforms, Bolts and Nuts,** (11′-8″ long) for Refs. G and Ga (For details refer to Plate B-2900).....	B–10313–512
	13a	**Ladder Complete with Platforms, Bolts and Nuts,** (11′-9″ long) for Ref. Gb (For details refer to Plate B-2900).....	B–10313–

One, Two and Three Unit, Styles "H", "H-2" and "H-5" Three Position, Color Light Searchlight Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	14	**Ladder Support Complete,** with Hook Bolts and Hex. Nuts (When ordering specify "Z" dimension)	B–9906–
	15	**Steel Girder** (When ordering specify "Z" dimension)	B–9906–
150818	16	**Pinnacle Complete** with Set Screw	B–8121–17
137067	17	**Plate,** ⅜"x7"x19½"	9999–372
137066	18	**Plate,** ⅜"x3"x22¼"	9999–373
147166	19	**Filler**	B–10936–2
	20	**Bolt,** 1"x6¾" Sq. Hd. with 1" Plain S. Lock Washer (3/32"x9/32") and 1" Hex. Nut.	
177812	21	**Hook Bolt,** 1"x12½" with 1" Hex. Nut	7913–149
177757	21a	**Hook Bolt,** 1"x9½" with 1" Hex. Nut	7913–149
	22	**Conduit,** 1½" Galv. S.S. Flexible 2'-4" long, with 1½" Str. Box Connector and 1½" M.I. Galv. Male and Female Unions for Refs. E, Ea, F, Fa, G and Ga.	
	23	**Conduit,** 1½" Galv. S.S. Flexible 20" long, with 1½" Str. Box Connector and 1½" M.I. Galv. Male and Female Unions for Refs. B, Ba, C, Ca, D and Da.	
161777	24	**Pipe Cap Complete** with two tap bolts	B–9931–5
107225	25	**Cable Outlet Complete** with Gasket Ref. 25a and solid pipe cap	B–10342–114
127117	25a	**Gasket** for Ref. 25	8078–942
46567	26	**U-bolt** with ½" Hex. Nuts, for 5" Pipe, for Ref. 25.	8782–77
43931	27	**U-Bolt** with ¾" Hex. Nuts, for 5" Pipe	8782–66
44199	27a	**U-bolt** with ¾" Hex. Nuts, for 6" Pipe	8782–69
	28	**Conduit,** 2" Galv. S.S. Flexible, 16¾" long for Refs. Bb, Cb, Db, Eb, Fb and Gb.	

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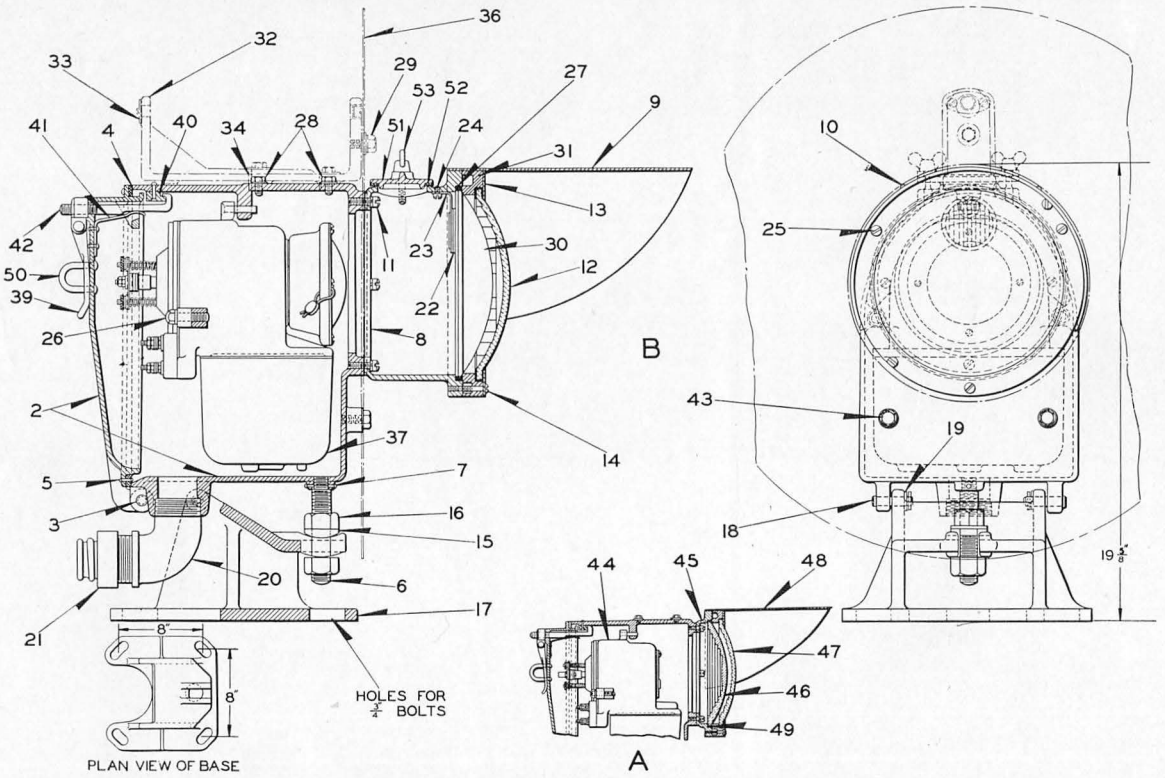

ONE UNIT STYLES "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS

UNION SWITCH & SIGNAL CO.

ONE UNIT STYLES "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS

Unless otherwise specified signals will be furnished with 8⅜" lens and with operating unit for 6 to 8 volts, Ref. A, Plate B-2885 for Style "H" Signal and Reference A, Plate B-2888 for Style "H-2" signal.

Voltage of lamps must be specified on orders.

If Sight Bracket and Background are desired, orders should so state.

If Operating Units without Contacts are desired orders should refer to Plate B-2886 for Style "H" and Plate B-2889 for Style "H-2."

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
151852	**A**	**One Unit, 3-Position Style "H" D.C. Searchlight Dwarf Signal** with Foundation Bolts, Lamp Ref. 38, and operating unit	C–9104–4
171645	**B**	**One Unit, 3-Position Style "H-2" D.C. Searchlight Dwarf Signal** (With close up deflecting prism) with foundation bolts, lamp Ref. 38, and operating unit (When ordering operating unit refer to Plates B-2888 and B-2889)	C–9104–8
178395	**Ba**	**One Unit, 3-Position Style "H-2" D.C. Searchlight Dwarf Signal** (With close up deflecting prism; sighting bracket and 24" background as shown in dot and dash lines) with foundation bolts, lamp Ref. 38 and operating unit (When ordering operating unit refer to Plates B-2888 and B-2889)	C–9104–8
144202	**2**	**Case and Door Complete** with Latch (Inc. 1-2a, 1-2b, 1-40, 1-41, 1-42, 1-39, 1-4, 14-5, 2-3, 1-6, 1-7 and 1-50)	C–9104–1
144203	**2a**	**Case only,** for Ref. 2	C–9105–1
144204	**2b**	**Door only,** for Ref. 2	C–9105–2
137853	**3**	**Pin,** 7/16"x1⅝"	B–10211–1
	4	**Packing Gasket,** ¼"x½"x3' 3½".	
	5	**Rivet,** ⅛"x¾" Split Br.	
410528	**6**	**Stud.**	
11992	**7**	**Pin, .1875"x1 13/32"**	8097–92
167996	**8**	**Lens Housing**	C–9105–16
65898	**9**	**Hood** for Ref. B	C–8842–15

UNION SWITCH & SIGNAL CO.

ONE UNIT STYLES "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	10	**Machine Screw, No. 10-30x1/4"** Rd. Hd. S. (Cad. Pl.).	
	11	**Machine Screw, 5/16"-18x1"** Fil. Hd. S. with 5/16" Plain S. Lock Washer (3/32"x1/8") Cad. Pl.	
160521	**12**	**Clear Deflecting Cover Glass, 8 3/8"** Diam.....	B–8276–57
71187	**13**	**Lens Ring**.....	7436–106
	14	**Machine Screw, No. 10-30x1 3/8"** Rd. Hd. Br.	
146404	**15**	**Washer**.....	8065–201
	16	**Hex. Nut, 3/4"** (Cad. Pl.).	
405049	**17**	**Base.**	
144627	**18**	**Pin, 7/16"x1 11/16"** with 1/8"x3/4" S. Cotter.....	B–10212–1
48750	**19**	**Washer**.....	7826–117
	20	**1 1/2" Street Ell** (Galv.).	
	21	**Jake Str. Box Connector, 1 1/2"** M. I. Galv.	
143512	**22**	**2 5/16" Diam. Clear Light Deflecting Prism**.....	B–8276–33
169684	**23**	**Lens Ring** for Ref. 22.....	8735–734
	24	**Machine Screw, No. 10-30x1/4"** Fil. Hd. S. (Cad. Pl.).	
	25	**Machine Screw, No. 14-24x3/8"** Rd. Hd. Br.	
65018	**26**	**Screw, 5/16"-18x1 3/8"** with 5/16" Plain S. Lock Washer (1/8"x3/32") Cad. Pl. for attaching Operating Unit to Case.....	8190–312
131706	**27**	**Gasket**.....	8078–1367

UNION SWITCH & SIGNAL CO.

ONE UNIT STYLES "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	28	**Tap Bolt, $\frac{5}{16}$"-18x$\frac{1}{2}$"** Hex. Hd. S. with $\frac{5}{16}$" Plate Washer (Cad. Pl.).	
	29	**Tap Bolt, $\frac{3}{8}$"-16x$\frac{3}{4}$"** Hex. Hd. S. with two $\frac{3}{8}$" Plate Washers and one $\frac{3}{8}$" Plain S. Lock Washer ($\frac{5}{32}$" x$\frac{1}{16}$") Cad. Pl.	
169299	30	**Clear Lens,** 8$\frac{3}{8}$" diam.	B–8276–63
158731	31	**Lens Spacing Ring**	C–9105–12
152843	32	**Sight Bracket**	C–9105–11
	33	**Escutcheon Pin, No. 16x$\frac{3}{8}$".**	
38851	34	**Pin, .1285"x$\frac{7}{8}$"**	8097–423
10478	35	**Foundation Bolt, $\frac{3}{4}$"x18"** with $\frac{3}{4}$" Hex. Nut and $\frac{3}{4}$" Plate Washer (Not shown)	7913–44
178396	36	**Background** (24" diam.)	C–9105–17
	37	**Style "H-2" Searchlight Signal Operating Unit** (When ordering refer to Plates B-2888 and B-2889)	C–9157–
	38	**Lamp** (Not shown) When ordering refer to Plate B-2885	B–12409–
175081	39	**Hasp Complete** with Latch Nut and Rivet	9925–30
410521	40	**Latch Block Complete** with two Rivets $\frac{3}{16}$"x$\frac{3}{4}$" Rd. Hd. I.	
410529	41	**Latch Spring Complete** with two Rivets $\frac{1}{8}$"x$\frac{9}{16}$" Rd. Hd. I.	
410527	42	**Latch Lock.**	
	43	**Tap Bolt, $\frac{3}{8}$"-16x$\frac{3}{4}$"** with $\frac{3}{8}$" Plate Washer.	

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ONE UNIT STYLES "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	44	**Style "H" Searchlight Signal Operating Unit** (When ordering refer to Plates B-2885 and B-2886)	C–9157–
144456	45	**Lens Housing** for Ref. A	C–9105–6
178811	46	**Lens (Clear)** 8⅜″ diam. with Gasket Ref. 49	B–8276–41
178328	47	**Convex Deflecting Clear Cover Glass, 8⅜″** Diam. with Gasket Ref. 49	B–8276–54
163434	48	**Hood** for Ref. A	C–8842–15
	49	**Lamp Wicking, $\frac{1}{16}$″x1″x2′ 6″ Long.**	
410319	50	**Staple.**	
180915	51	**Cover**	C–9105–16
180927	52	**Gasket** for Ref. 51	8078–1503
116722	53	**Thumb Screw,** for attaching Ref. 51 to Case	8331–49

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PLATE B-2877

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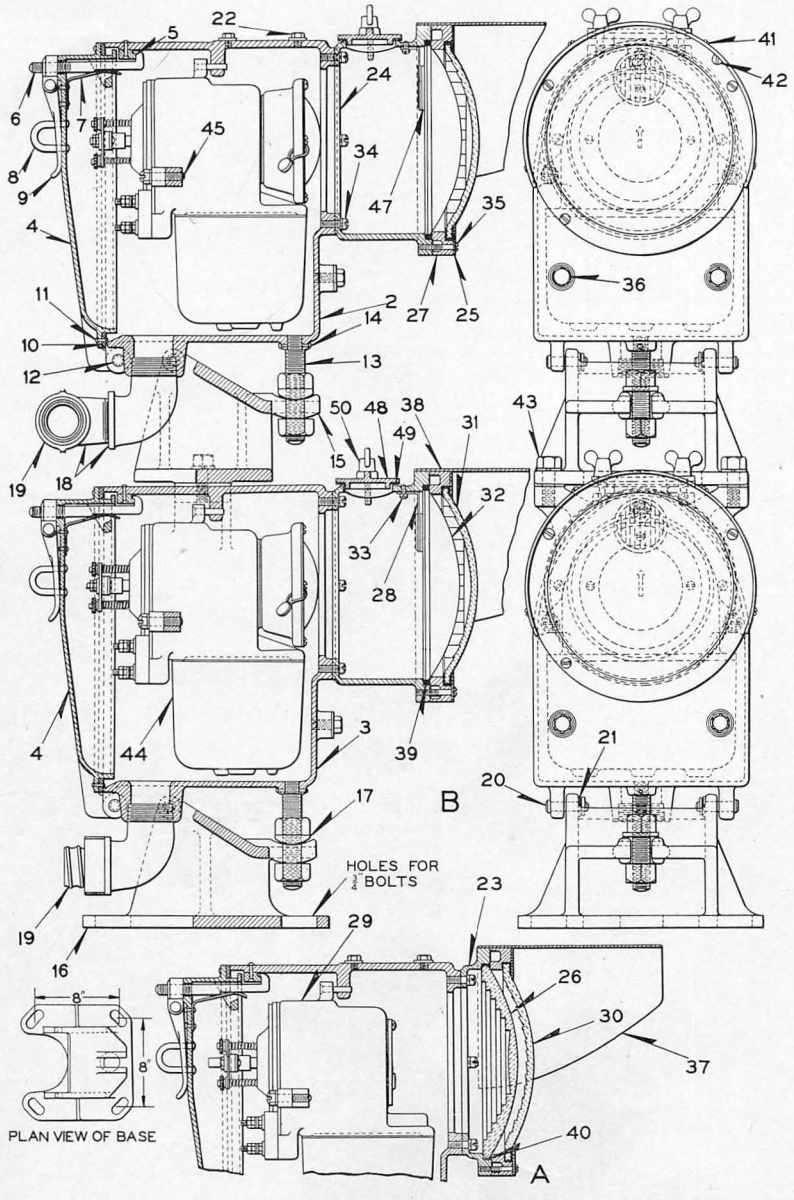


TWO UNIT STYLE "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS

UNION SWITCH & SIGNAL CO.

TWO UNIT STYLE "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS

Unless otherwise specified, signals will be furnished with 8 3/8" lens, and with operating unit for 6 to 8 volts, Reference A, Plate B-2885 for Style "H" signal and Reference A, Plate B-2888 for Style "H-2" signal.

Voltage of lamps must be specified on orders.

Inoperative signal units are shown on Plate B-2892.

If Operating Units without Contacts are desired orders should refer to Plate B-2886 for Style "H" and Plate B-2889 for Style "H-2."

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
159067	**A**	**Two Unit, 3-Position Style "H" D.C. Searchlight Dwarf Signal** with operating Unit in upper and lower units, foundation bolts and lamp Ref. 46	C–9104–5
178439	**B**	**Two Unit, 3-Position Style "H-2" D.C. Searchlight Dwarf Signal** with 8 3/8" Lens (with close up Deflecting Prism) operating units in upper and lower units, foundation bolts and lamps Ref. 46	C–9104–9
144203	**2**	**Upper Case**	C–9105–1
158976	**3**	**Lower Case**	C–9105–13
144204	**4**	**Door** for Refs. 2 and 3	C–9105–2
410521	**5**	**Latch Block Complete** with two 3/16"x3/4" Rd. Hd. I. Rivets.	
410527	**6**	**Latch Lock.**	
410529	**7**	**Latch Spring Complete** with two 1/8"x9/16" Rd. Hd. I. Rivets.	
410319	**8**	**Staple.**	
175081	**9**	**Hasp**	9925–30
	10	**Packing Gasket, 1/4"x1/2"x3' 3 1/2" Long.**	
	11	**Split Brass Rivet, 1/8"x3/4".**	
137853	**12**	**Pin, 7/16"x1 5/8"**	B–10211–1
413239	**13**	**Stud**	410528
11992	**14**	**Pin, .1875"x1 13/32"**	8097–92
158996	**15**	**Base**	C–9105–14

UNION SWITCH & SIGNAL CO.

TWO UNIT STYLE "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
405049	16	**Base.**	
146404	17	**Washer**	8065–201
	18	**Street Ell, 1½″** M. I. Galv.	
	19	**Jake Str. Box Connector, 1½″** M. I. Galv.	
144627	20	**Pin, $\frac{7}{16}$″x1$\frac{11}{16}$″** with $\frac{1}{8}$″x$\frac{3}{4}$″ S. Cotter (Cad. Pl.)	B–10212–1
48750	21	**Washer**	7826–117
	22	**Tap Bolt, $\frac{5}{16}$″-18x½″** with $\frac{5}{16}$″ Plate Washer.	
144456	23	**Lens Housing** for Ref. A	C–9105–6
167996	24	**Lens Housing** for Ref. B	C–9105–16
71187	25	**Lens Ring**	7436–106
178811	26	**8⅜″ Diam. Lens (Clear)** 5″ Focus with plain center and gasket Ref. 40	B–8276–41
158731	27	**Lens Spacing Ring**	C–9105–12
169684	28	**Lens Ring**	8735–734
	29	**Style "H" Searchlight Signal Operating Unit** (When ordering refer to Plates B-2885 and B-2886)	C–9157–
178328	30	**Convex Deflecting Clear Cover Glass 8⅜″** diam. with gasket Ref. 40	B–8276–54
160521	31	**Convex 20° Deflecting Clear Cover Glass 8⅜″** diam. with gasket Ref. 40	B–8276–57
169299	32	**8⅜″ Diam. Clear Outer Lens**	B–8276–63
	33	**Machine Screw, No. 10-30x¼″** Fil. Hd. S. (Cad. Pl.).	

UNION SWITCH & SIGNAL CO.

TWO UNIT STYLE "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	34	**Machine Screw, $\frac{5}{16}$"-18x1"** Fil. Hd. S. with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$").	
	35	**Machine Screw, No. 10-30x1⅜"** Rd. Hd. Br.	
	36	**Tap Bolt, ⅜"-16x¾"** Hex. Hd. S. with ⅜" Plate Washers.	
163434	37	**Hood** for Ref. A	C–8842–15
65898	38	**Hood** for Ref. B	C–8842–15
131706	39	**Gasket**	8078–1367
	40	**Lamp Wicking, $\frac{1}{16}$"x1"x2' 6" Long.**	
	41	**Machine Screw, No. 10-30x¼"** Rd. Hd. S. (Cad. Pl.).	
	42	**Machine Screw, No. 14-24x⅜"** Rd. Hd. Br.	
	43	**Tap Bolt, ½"-13x1½"** Hex. Hd. S. with ½" Plain S. Lock Washer ($\frac{3}{16}$"x$\frac{3}{32}$").	
	44	**Style "H-2" Searchlight Signal Operating Unit** (When ordering refer to Plates B-2888 and B-2889)	C–9157–
	44a	**Inoperative Unit** (When this unit is used in place of operating unit refer to Plate B-2892 for ordering references)	C–9158–8
65018	45	**Screw, $\frac{5}{16}$"-18x1⅜"** with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{1}{8}$"x$\frac{3}{32}$")	8190–312
	46	**Lamp** (Not shown) When ordering refer to Plate B-2885	B–12409–
143512	47	**2$\frac{5}{16}$" Diam. Clear Light Deflecting Prism**	B–8276–33
180915	48	**Cover**	C–9105–16

PLATE B-2877

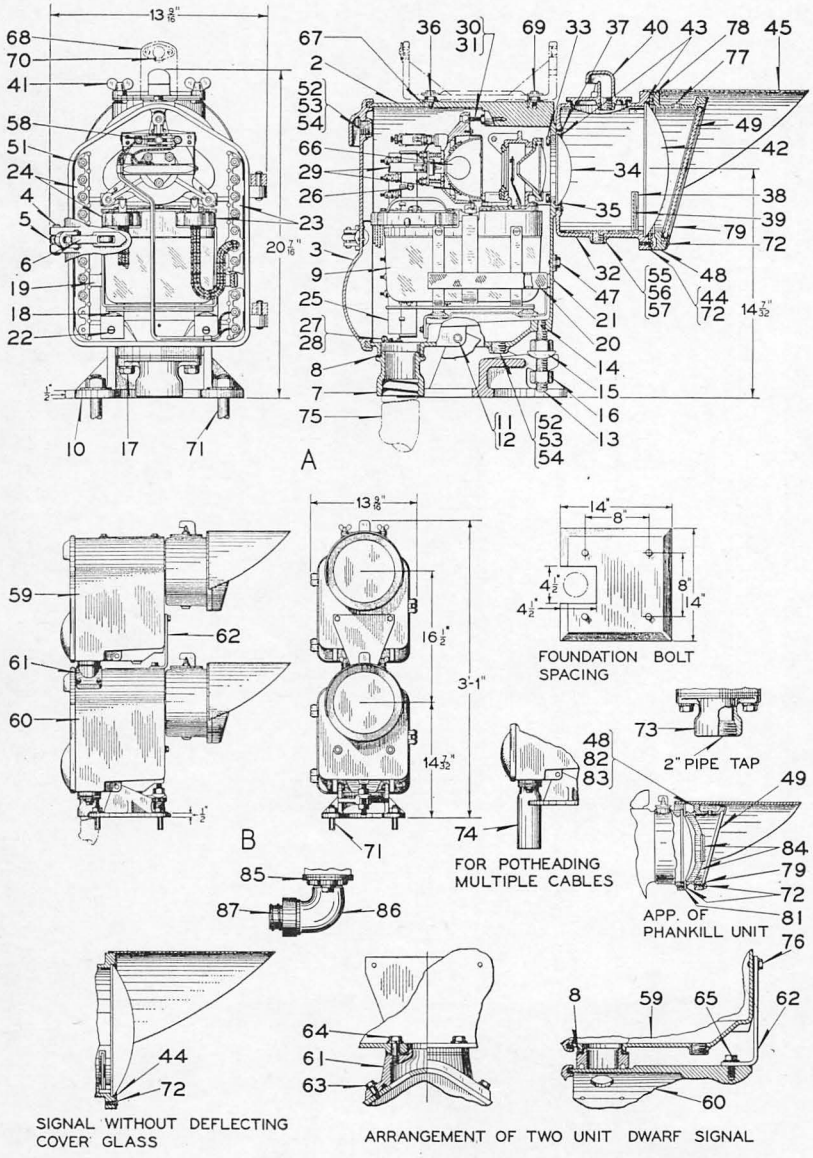
UNION SWITCH & SIGNAL CO.

TWO UNIT STYLE "H" AND "H-2" D. C. SEARCHLIGHT DWARF SIGNALS
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
180927	**49**	**Gasket,** for Ref. 48	8078–1503
116722	**50**	**Thumb Screw,** for attaching Ref. 48 to Case	8331–49
10478	**51**	**Foundation Bolt, ¾″x18″** with ¾″ Hex. Nut and ¾″ Plate Washer (Not shown)	7913–44

MEMORANDA



Style "H-5" Searchlight Dwarf Signal

One and Two Unit, Style "H-5" Three-Position Color Light Searchlight Dwarf Signals

Unless otherwise specified, signals will be furnished as follows:

250-Ohm Operating Unit, Reference A, Plate B-2889-3; 10° Deflecting Cover Glass Reference 49; Cable Outlet Reference 7.

The following material is optional and, if desired, orders should so state; Sight Bracket Reference 68; 20° Deflecting Cover Glass Reference 49a; Cable Outlets References 73, 74 and 85; Signal without Deflecting Cover Glass; Phankill Unit Reference 84.

Inoperative Dwarf Signals are shown on Plate B-2884.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**One Unit, 3-Indication Style "H-5" Searchlight Dwarf Signal Complete as Shown in Full Lines** (With 250-Ohm operating unit) Orders should specify lamp (Refs. 66 to 66q inc.)	C–16674–1
	B	**Two Unit, 3-Indication Style "H-5" Searchlight Dwarf Signal Complete as Shown** (With 250-Ohm operating units) Orders should specify lamps (Refs. 66 to 66q inc.)	C–16674–5
104285	2	**Case**	C–16671–10
104303	3	**Door** with Clip and Gasket	C–16671–11
	3a	**Gasket,** ⅜″x⅜″x3′-11½″ long, jute packing, for Ref. 3.	
103712	3b	**Clip** for Ref. 3	11893–847
54937	3c	**Rivet** for attaching Clip to Door	10301–50
207907	4	**Pin**	B–10207–1
64973	5	**Eye Bolt** (Cad. Pl.)	8034–64
140207	6	**Hasp Complete**	8299–66
104275	7	**Cable Outlet** for 2″ S.S. Flex. S. Conduit	B–10342–103
210991	8	**Gasket**	8078–997
	9	**Style "H-5" Searchlight Signal Operating Unit Complete** (When ordering assemblies or details refer to Plate B-2889-3)	C–16673–1
104415	10	**Base**	C–16671–12
144627	11	**Pin** with ⅛″x¾″ S. Cotter (Tin Pl.)	B–10212–1
48750	12	**Washer**	7826–117
413239	13	**Stud**	410528

One and Two Unit, Style "H-5" Three-Position Color Light Searchlight Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
11992	**14**	**Pin**	8097–92
146404	**15**	**Washer**	8065–201
	16	**Hex. Nut,** Std. 3/4" (Cad. Pl.).	
	17	**Bolt,** 1/2"-13x1 3/8" Hex. Hd. S. (Cad. Pl.) with 1/2" Pl. S. Lock Washer (7/32"x5/32") (Cad. Pl.).	
221496	**18**	**Track Complete**	C–16671–17
104244	**19**	**Wire Chase Bracket**	10914–942
105392	**20**	**Sleeve**	8095–732
	21	**Machine Screw,** No. 14-24x5/8" Flat Hd. Br. (N.P.).	
	22	**Machine Screw,** No. 14-24x1/2" Fil. Hd. Bz. (N.P.) with 1/4" Pl. S. Lock Washer (3/32"x1/16") (Tin Pl.).	
104430	**23**	**R.H. Terminal Board Complete** (When ordering assemblies or details refer to Plate B-2897)	C–16671–7
103726	**24**	**L.H. Terminal Board Complete** (When ordering assemblies or details refer to Plate B-2897)	C–16671–7
104408	**25**	**Terminal Marker**	8988–163
	26	**Machine Screw,** No. 14-24x1" Fil. Hd. Bz. (N.P.)	
104166	**27**	**Wire Clip**	11893–855
	28	**Machine Screw,** No. 8-36x5/16" Fil. Hd. Br. (N.P.)	
214525	**29**	**Reflector Complete** (Without Resistor) (When ordering assemblies or details refer to Plate B-2897)	C–16671–5
103717	**30**	**Stud** with Nut Ref. 30a	8114–916
1530	**30a**	**Hex. Nut** for Ref. 30	8109–38
180544	**31**	**Dowel Pin**	8097–409
103739	**32**	**Lens Adapter**	C–16671–6
	33	**Tap Bolt,** 5/16"-18x5/8" Hex. Hd. S. (Cad. Pl.) with 5/16" Pl. S. Lock Washer (5/32"x3/32") (Cad. Pl.)	

One and Two Unit, Style "H-5" Three-Position Color Light Searchlight Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
169298	**34**	**4½″ Diam. Clear Inner Lens**	B–8276–62
169544	**35**	**Lens Ring**	7436–141
	36	**Tap Bolt,** $\frac{5}{16}$″-18x½″ Hex. Hd. S. (Cad. Pl.) with $\frac{5}{16}$″ S. Plate Washer (Cad. Pl.)	
	37	**Machine Screw,** No. 10-30x¼″ Rd. Hd. Br. (N.P.)	
187830	**38**	**Prism Bracket**	8735–796
143512	**39**	**Close-Up Deflecting Prism**	B–8276–33
	40	**Cover** with Gasket	C–16671–6
210400	**40a**	**Gasket** for Ref. 40	8078–1503
73098	**41**	**Thumb Screw Complete**	8331–49
169299	**42**	**8⅜″ Diam. Clear Outer Lens**	B–8276–63
131706	**43**	**Gasket**	8078–1367
71187	**44**	**Lens Ring**	7436–106
65898	**45**	**Lens Hood**	C–8842–15
	46	**Machine Screw,** No. 14-24x⅜″ Rd. Hd. Br. (N.P.) Used to plug holes when Deflecting Cover Glass is not used (Not shown)	
	47	**Cap Screw,** ⅜″-16x⅜″ Hex. Hd. S. (Cad. Pl.) with Std. ⅜″ S. Plate Washer (Cad. Pl.)	
207803	**48**	**Adapter Ring**	C–9105–24
222600	**49**	**8⅜″ Diam. 10° Deflecting Cover Glass with Gasket**	B–8276–77
199883	**49a**	**8⅜″ Diam. 20° Deflecting Cover Glass with Gasket**	B–8276–77
	50	**Machine Screw,** No. 14-24x1⅜″ Fil. Hd. Bz. (N.Pl.) for attaching Ref. 48 to Ref. 32 (Not shown)	
211607	**51**	**Cork Strip**	8078–1578
213626	**52**	**¾″ Nipple**	B–10375–4

One and Two Unit, Style "H-5" Three-Position Color Light Searchlight Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
213628	**53**	**¾″ Ventilator**	7318–72
	54	**¾″ Conduit Bushing**	
213623	**55**	**½″ Nipple**	B–10375–4
213627	**56**	**½″ Ventilator**	7318–72
	57	**½″ Conduit Bushing**	
150318	**58**	**Resistor** (1-Ohm)	9065–186
144909	**58a**	**Resistor** (2-Ohms)	9065–186
144910	**58b**	**Resistor** (5-Ohms)	9065–186
107394	**59**	**Upper Case** for Two Unit Signal	C–16671–10
107395	**60**	**Lower Case** for Two Unit Signal	C–16671–10
107396	**61**	**Adapter**	C–16671–15
107397	**62**	**Bracket**	10914–1045
	63	**Tap Bolt,** ⅜″-16x1″ Hex. Hd. S. (Cad. Pl.) with ⅜″ Pl. S. Lock Washer (⅛″x$\frac{3}{32}$″) (Cad. Pl.)	
	64	**Bolt,** ½″-13x1½″ Hex. Hd. S. (Cad. Pl.) with ½″ Pl. S. Lock Washer ($\frac{7}{32}$″x$\frac{5}{32}$″) (Cad. Pl.)	
	65	**Tap Bolt,** ½″-13x1″ Hex. Hd. S. (Cad. Pl.) with ½″ Pl. S. Lock Washer ($\frac{7}{32}$″x$\frac{5}{32}$″) (Cad. Pl.)	

Lamp, S-11 Bulb, 1¼″ Light Center Length, Single Contact Bayonet Candelabra Base, $\frac{1}{64}$″ Precision (Order by Piece Number, Reference and Rating).

Piece	Ref.	Rating		Filament	Drawing Reference
		Volts	Watts		
168741	**66**	8	5	Single	B–12409–18
142967	**66a**	8	10	Single	B–12409–18
177731	**66b**	8	18	Single	B–12409–24

One and Two Unit, Style "H-5" Three-Position Color Light Searchlight Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Rating		Filament	Drawing Reference
		Volts	Watts		
148970	**66c**	10	5	Single	B–12409–18
146930	**66d**	10	10	Single	B–12409–18
151138	**66e**	10	18	Single	B–12409–18
175067	**66f**	10	25	Single	B–12409–18
145877	**66g**	11	11	Single	B–12409–18
135722	**66h**	13.5	17	Single	B–12409–18
192057	**66j**	8	5+3.5	Major and Minor Double	B–12409–24
159440	**66k**	8	13+3.5	Major and Minor Double	B–12409–24
199177	**66m**	8	18+3.5	Major and Minor Double	B–12409–24
221513	**66n**	10	5+3.5	Major and Minor Double	B–12409–24
182814	**66p**	10	13+3.5	Major and Minor Double	B–12409–24
191859	**66q**	11.3	14.4+3.5	Major and Minor Double	B–12409–24

Piece	Ref.	Description	Drawing Reference
38851	**67**	**Pin** (When Sight Bracket is used)	8097–423
210395	**68**	**Sight Bracket** with Tube, Screws, Sight and Clamp Plates	C–9105–11
	69	**Tap Bolt,** $\frac{5}{16}$″-18x$\frac{7}{8}$″ Hex. Hd. S. (Cad. Pl.) with $\frac{5}{16}$″ S. Plate Washer (Cad. Pl.) (When Sight Bracket is used)	

One and Two Unit, Style "H-5" Three-Position Color Light Searchlight Dwarf Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	70	**Pin,** No. 16x⅜" Br. (For Sight Bracket)	
10478	**71**	**Foundation Bolt,** ¾"x18", with ¾" Hex. Nut and ¾" S. Plate Washer	7913–44
	72	**Machine Screw,** No. 10-30x⅜" Rd. Hd. Br. (N.P.)	
104585	**73**	**Cable Outlet** (with 2" Pipe Tap)	B–10342–103
107626	**74**	**Cable Outlet** (arranged for potheading multiple cables)	B–10342–116
	75	**Conduit,** 2" S.S. Flexible Steel (Orders should specify length desired)	
	76	**Tap Bolt,** ⅜"-16x¾" Hex. Hd. S. (Cad. Pl.) with ⅜" Pl. S. Lock Washer (⅛"x$\frac{3}{32}$") (Cad. Pl.)	
84244	**77**	**Ventilator**	7318–64
90893	**78**	**Gasket**	8078–1318
184578	**79**	**Lens Ring**	7436–106
	80	**Screw,** No. 14-24x1⅞" Fil. Hd. Bz. for attaching Ref. 48 to Ref. 32 (Not shown)	
143502	**81**	**Lens Ring**	7436–133
	82	**Machine Screw,** No. 14-24x2¼" Fil. Hd. Bz. for attaching Ref. 48 to Ref. 32 when Phankill Unit is used.	
	83	**Machine Screw,** No. 14-24x2⅞" Fil. Hd. Bz. for attaching Ref. 48 to Ref. 32 when Phankill Unit is used.	
143504	**84**	**Phankill Unit Complete**	C–8901–86
218330	**85**	**Cable Outlet** with Gasket Ref. 85a (With 1½" Pipe Tap)	B–10342–124
210991	**85a**	**Gasket**	8078–997
	86	**1½" M. I.** Galv. 90° Street Ell	
	87	**1½" M. I.** Straight Box Connector (Cad. Pl.) for S.S. Flex. S. Conduit	

UNION SWITCH & SIGNAL CO.

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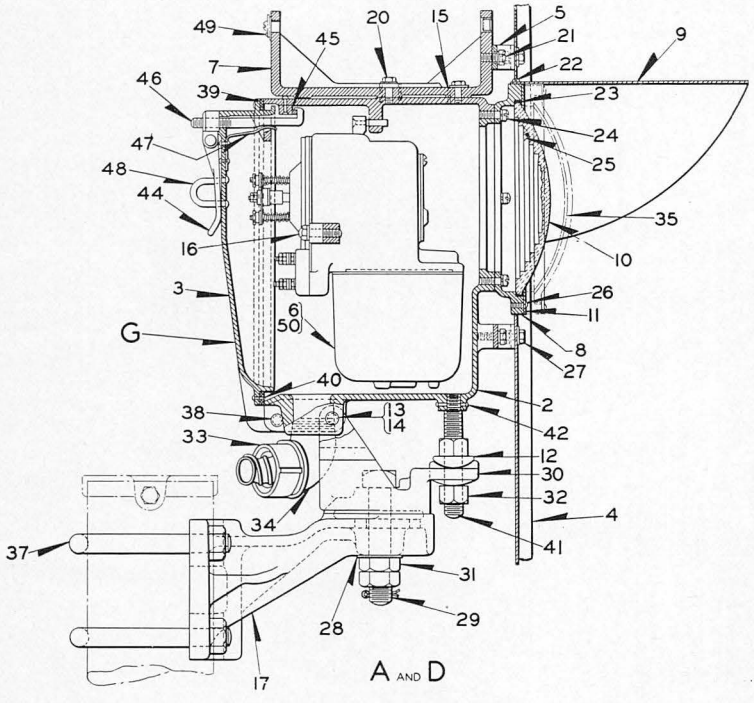
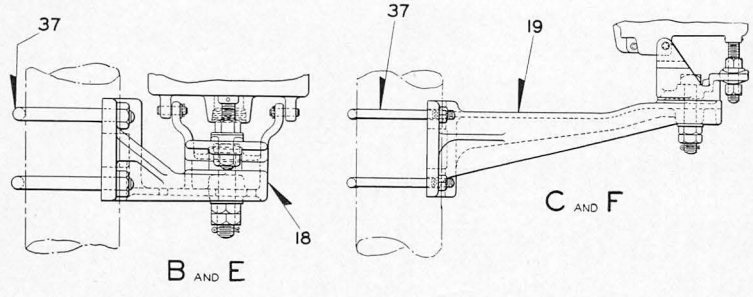
PLATE B-2880

UNION SWITCH & SIGNAL CO.





STYLE "H" THREE POSITION COLOR LIGHT
SEARCHLIGHT SIGNAL

UNION SWITCH & SIGNAL CO.

STYLE "H" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Unless otherwise specified, signals will be furnished with 8⅜" lens and with operating unit for 6 to 8 volt, Reference A, Plate B-2885, and with "U" bolts for 5" Pipe.

Voltage of lamps must be specified on orders.

Inoperative signal units are shown on Plate B-2892.

If Operating Units without Contacts are desired refer to Plate B-2886.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "H" D.C. Color Light Searchlight Signal Unit with Background, Operating Unit (Orders should state operating unit desired by referring to Plates B-2885 and B-2886), Lamp Ref. 43, U-Bolts, Mounting Bracket, Conduit and Fittings.

Piece	Ref.	Mounting	Mounting Bracket	Remarks	Drawing Reference
	A	Front Top of Mast	Ref. 17		C–9104–3
	B	Side of Mast	Ref. 18		C–9104–2
	C	Front or Side of Mast	Ref. 19	see note*	C–9104–3

*This type of bracket is for use with units mounted directly in front of Post where it is not desirable to use front top of Post mounting; this bracket can also be used for mounting units to either side of post.

Style "H" D.C. Inoperative Searchlight Signal Unit, with Background, lamp Unit Plate B-2892, Lamp Ref. 43, U-Bolts, Mounting Bracket, Conduit and Fittings.

Piece	Ref.	Mounting	Mounting Bracket	Remarks	Drawing Reference
	D	Front Top of Mast	Ref. 17		C–9104–
	E	Side of Mast	Ref. 18		C–9104–
	F	Front of Side of Mast	Ref. 19	See note*	C–9104–

*This type of bracket is for use with units mounted directly in front of Post where it is not desirable to use front top of Post mounting; this bracket can also be used for mounting units to either side of post.

UNION SWITCH & SIGNAL CO.

STYLE "H" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
145315	**G**	**Case and Door Complete** with Latch (Inc. 1-2, 1-3, 1-45, 1-46, 1-47, 1-48, 1-44, 1-39, 14-40, 2-38, 1-41 and 1-42)	C–9104–2
144203	**2**	**Case only**	C–9105–1
144204	**3**	**Door**	C–9105–2
144459	**4**	**Background** (2′ 11″ Diam.)	C–9105–6
146805	**5**	**Support** for Ref. 4	9999–520
	6	**Style "H" Searchlight Signal Operating Unit Complete** (When ordering refer to Plates B-2885 and B-2886)	C–9157–2
152843	**7**	**Sight Bracket Complete** with Tube, Screw, Sight and Clamp Plates	C–9105–11
144456	**8**	**Lens Housing**	C–9105–6
65898	**9**	**Hood**	C–8842–15
170583	**10**	**8⅜″ Diam. Clear Lens 5″ Focus** with 40° center Deflecting Prism and Gasket Ref. 23	B–8276–41
178811	**10a**	**8⅜″ Diam. Clear Lens 5″ Focus** with Plain Center and Gasket Ref. 23	B–8276–41
71187	**11**	**Lens Ring**	7436–106
146404	**12**	**Washer**	8065–201
144627	**13**	**Pin, 7/16″x1 11/16″** with 1/8″x¾″ Cotter	B–10212–1
48750	**14**	**Washer**	7826–117
38851	**15**	**Pin, .1285″x⅞″**	8097–423

UNION SWITCH & SIGNAL CO.

STYLE "H" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
65018	**16**	**Screw, $\frac{5}{16}$"-18x1$\frac{3}{8}$"** with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$") (Cad. Pl.) for attaching Operating Unit to case	8190–312
147483	**17**	**Adjusting Bracket** for front top of mast application (For details see Ref. Aa, Plate B-2896) (Without "U" Bolts)	C–9105–7
147489	**18**	**Adjusting Bracket** for side of mast application (For details see Ref. C, Plate B-2896) (Without "U" Bolts)	C–9105–8
162983	**19**	**Adjusting Bracket** for front or side of Mast application (For details see Ref. A, Plate B-2896) (Without "U" Bolts)	C–9105–15
	20	**Tap Bolt, $\frac{5}{16}$"-18x1"** Hex. Hd. S. with $\frac{5}{16}$" Plate Washer (Cad. Pl.).	
	21	**Tap Bolt, $\frac{3}{8}$"-16x$\frac{3}{4}$"** Hex. Hd. S. with $\frac{3}{8}$" Plain S. Lock Washer ($\frac{5}{32}$"x$\frac{1}{16}$") Cad. Pl.	
	22	**Machine Screw, No. 10-30x$\frac{1}{4}$"** Rd. Hd. S. (Cad. Pl.).	
	23	**Lamp Wicking, 2' 6"x$\frac{1}{16}$"x1".**	
	24	**Machine Screw, $\frac{5}{16}$"-18x1"** Fil. Hd. S. with $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$") Cad. Pl.	
	25	**Machine Screw, No. 14-24x$\frac{3}{8}$"** Rd. Hd. Br.	
	26	**Machine Screw, No. 10-30x$\frac{3}{8}$"** Rd. Hd. Br.	
	27	**Tap Bolt, $\frac{5}{16}$"x1"** Hex. Hd. S. with $\frac{5}{16}$" Plate Washer, $\frac{5}{16}$" Hex. Nut, and $\frac{5}{16}$" Plain S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{8}$") Cad. Pl.	
80821	**28**	**Washer** for Ref. 29	7826–20

UNION SWITCH & SIGNAL CO.

STYLE "H" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	29	**Bolt, 1″x5″** with ¼″x1½″ S. Cotter, two Nuts Ref. 31 and Washer Ref. 28	8479–196
144205	**30**	**Supporting Bracket**	C–9105–3
	31	**Hex. Jam Nut, 1″** (Cad. Pl.).	
	32	**Hex. Jam Nut, ¾″** (Cad. Pl.).	
	33	**Jake Str. Box Connector, 1½″** M. I. Galv.	
	34	**Street Ell, 1½″** (Galv.).	
90897	**35**	**Deflecting Prism Cover Glass** (10° Spread one direction) used with 8⅜″ Lens	C–8901–8
90898	**35a**	**Deflecting Prism Cover Glass** (20° Spread one direction) used with 8⅜″ Lens	C–8901–8
170245	**35b**	**Spreadlite Prism Cover Glass** (15° Spread in each direction) used with 8⅜″ Lens	C–9105–12
174897	**35c**	**Spreadlite Prism Cover Glass** (8° Spread in each direction) used with 8⅜″ Lens	C–9105–12
	36	**Machine Screw, No. 14-24x⅝″** Rd. Hd. Br. (Used to plug hole for deflecting prism) (Not shown).	
43931	**37**	¾″ **"U" Bolt** with Hex. Nuts for attaching unit to 5″ Pipe	8782–66
44199	**37a**	¾″ **"U" Bolt** with Hex. Nuts for attaching unit to 6″ Pipe	8782–69
97657	**37b**	¾″ **"U" Bolt** with Hex. Nuts for attaching unit to 5″ Casing	8782–66
137853	**38**	**Pin, $\frac{7}{16}$″x1⅝″**	B–10211–1
	39	**Packing Gasket, ¼″x½″x3′ 3½″.**	

UNION SWITCH & SIGNAL CO.

STYLE "H" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

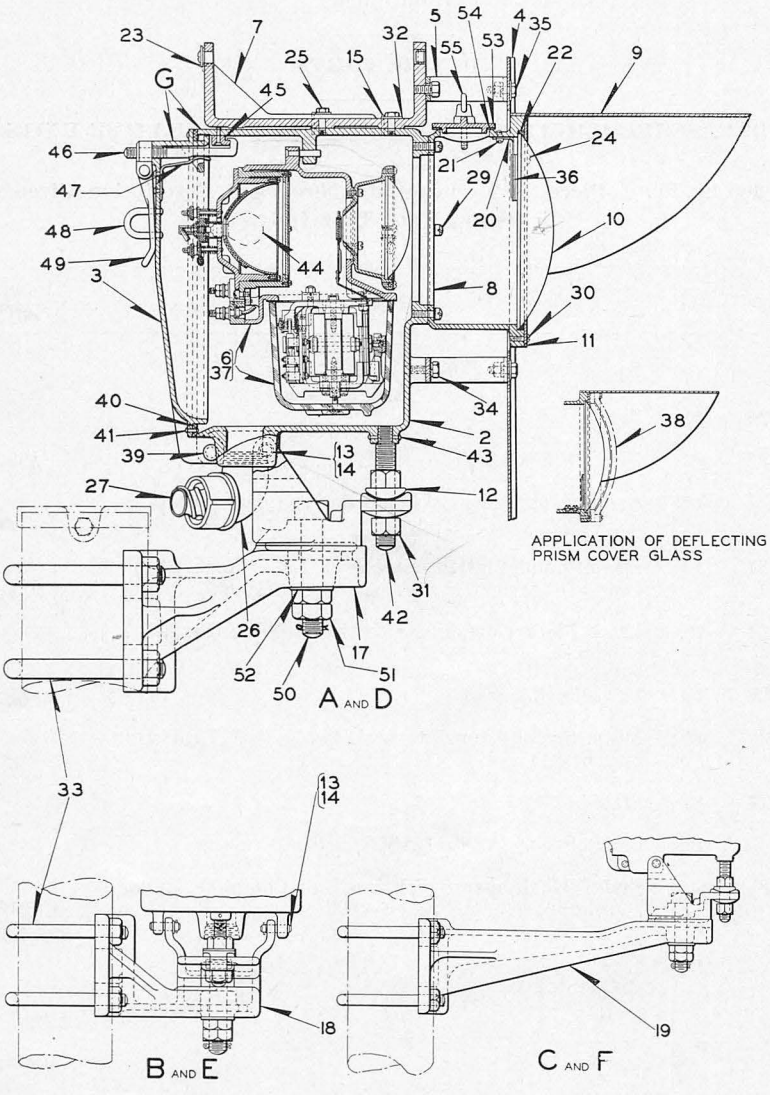
D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	40	**Rivet,** $\frac{1}{8}$"x$\frac{3}{4}$" Split Br.	
410528	41	**Stud.**	
11992	42	**Pin, .1875"x1-**$\frac{13}{32}$"	8097–92
	43	**Lamp** (Not shown) When ordering refer to Plate B-2885	B–12409–
175081	44	**Hasp Complete** with Latch Nut, Latch Lock, Staple and Rivet	9925–30
410521	45	**Latch Block Complete** with two $\frac{3}{16}$"x$\frac{3}{4}$" Rd. Hd. I. Rivets.	
410527	46	**Latch Lock.**	
410529	47	**Latch Spring Complete** with two $\frac{1}{8}$"x$\frac{9}{16}$" Rd. Hd. I. Rivets.	
410319	48	**Staple.**	
	49	**Escutcheon Pin, No. 16x$\frac{3}{8}$".**	
	50	**Style "H" Inoperative Lamp Unit Complete** (When ordering refer to Plate B-2892)	C–9158–8

PLATE B-2881

UNION SWITCH & SIGNAL CO.



STYLE "H-2" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL

UNION SWITCH & SIGNAL CO.

STYLE "H-2" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Unless otherwise specified, signals will be furnished with 8⅜" lens and with operating unit for 6 to 8 volts, Reference A, Plate B-2888 and with "U" bolts for 5" Pipe.

Voltage of lamps must be specified on orders.

Inoperative signal units are shown on Plate B-2892.

If Operating Units without Contacts are desired refer to Plate B-2889.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "H-2" D.C. Color Light Searchlight Signal Unit with 8⅜" Plano-Convex Lens, Background, Operating Unit (Orders should state operating unit desired by referring to Plates B-2888 and B-2889), Lamp Ref. 44, U-Bolts, Mounting Bracket, Conduit and Fittings.

Piece	Ref.	Mounting	Mounting Bracket	Remarks	Drawing Reference
	A	Front Top of Mast	Ref. 17		C–9104–6
	B	Side of Mast	Ref. 18		C–9104–7
	C	Front or Side of Mast	Ref. 19	see note*	C–9104–

*This type of bracket is for use with units mounted directly in front of Post where it is not desirable to use front top of Post mounting; this bracket can also be used for mounting units to either side of post.

Style "H-2" D.C. Inoperative Searchlight Signal Unit, with 8⅜" Plano-Convex Lens, Background, Lamp Unit Plate B-2892, Lamp Ref. 44, U-Bolts, Mounting Bracket, Conduit and Fittings.

Piece	Ref.	Mounting	Mounting Bracket	Remarks	Drawing Reference
	D	Front Top of Mast	Ref. 17		C–9104–
	E	Side of Mast	Ref. 18		C–9104–
	F	Front or Side of Mast	Ref. 19	see note*	C–9104–

*This type of bracket is for use with units mounted directly in front of Post where it is not desirable to use front top of Post mounting; this bracket can also be used for mounting units to either side of post.

Ref. 2573

UNION SWITCH & SIGNAL CO.

STYLE "H-2" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
145315	**G**	**Case and Door Complete** with Latch (Inc. 1-2, 1-3, 1-40, 14-41, 2-39, 1-42, 1-43, 1-45, 1-46, 1-47, 1-48, and 1-49)	C–9104–2
144203	**2**	**Case**	C–9105–1
144204	**3**	**Door**	C–9105–2
144459	**4**	**Background** (2′ 11″ Diam.)	C–9105–6
178937	**5**	**Support**	10914–458
	6	**Style "H-2" Searchlight Signal Operating Unit Complete** (When ordering refer to Plates B-2888 and B-2889)	C–9157–10
152843	**7**	**Sight Bracket Complete** with Tube, Screw, Sight and Clamp Plates	C–9105–11
167996	**8**	**Lens Housing**	C–9105–16
65898	**9**	**Hood**	C–8842–15
169299	**10**	**8⅜″ Diam. Clear Outer Lens**	B–8276–63
71187	**11**	**Lens Ring**	7436–106
146404	**12**	**Washer**	8065–201
144627	**13**	**Pin,** $\frac{7}{16}$″**x1**$\frac{11}{16}$″ with ⅛″x¾″ Cotter	B–10212–1
48750	**14**	**Washer**	7826–117
38851	**15**	**Pin, .1285″x⅞″**	8097–423
65018	**16**	**Screw,** $\frac{5}{16}$″**-18x1**⅜″ with $\frac{5}{16}$″ Plain S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{8}$″) (Cad. Pl.) for attaching Operating Unit to Case (Not shown)	8190–312

UNION SWITCH & SIGNAL CO.

STYLE "H-2" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
147483	**17**	**Adjusting Bracket** for front top of mast application (For details see Ref. Aa, Plate B-2896) (Without "U" Bolts)	C–9105–7
147489	**18**	**Adjusting Bracket** for side of mast application (For details see Ref. C, Plate B-2896) (Without "U" Bolts)	C–9105–8
162983	**19**	**Adjusting Bracket** for front or side of mast application (For details see Ref. A, Plate B-2896) (Without "U" Bolts)	C–9105–15
169684	**20**	**Lens Ring** for Ref. 56	8735–734
	21	**Machine Screw, No. 10-30x1/4"** Fil. Hd. S. (Cad. Pl.).	
131706	**22**	**Gasket**	8078–1367
	23	**Escutcheon Pin, No. 16x3/8".**	
	24	**Machine Screw, No. 14-24x3/8"** Rd. Hd. Br.	
	25	**Tap Bolt, 5/16"-18x1"** Hex. Hd. S. (Cad. Pl.).	
	26	**1½" Street Ell M. I.** Galv..	
	27	**Jake Str. Box Connector, 1½" M. I.** Galv.	
	28	**Machine Screw, No. 10-30x1/4"** Rd. Hd. S. (Cad. Pl.) for attaching Hood Ref. 9 to Case Ref. 2 (Not shown).	
	29	**Machine Screw, 5/16"-18x1"** Fil. Hd. S. (Cad. Pl.) with 5/16" Pl. S. Lock Washer (3/32"x1/8") (Cad. Pl.).	
	30	**Machine Screw, No. 10-30x3/8"** Rd. Hd. Br.	
	31	**Hex. Nut,** Std. 3/4" (Cad. Pl.).	

UNION SWITCH & SIGNAL CO.

STYLE "H-2" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	32	**Plate Washer,** $\frac{5}{16}$″ S. (Cad. Pl.).	
43931	33	$\frac{3}{4}$″ **U-Bolt** with Hex. Nuts for attaching unit to 5″ Pipe	8782–66
44199	33a	$\frac{3}{4}$″ **U-Bolt** with Hex. Nuts for attaching unit to 6″ Pipe	8782–69
97657	33b	$\frac{3}{4}$″ **U-Bolt** with Hex. Nuts for attaching unit to 5″ Casing	8782–66
	34	**Tap Bolt,** $\frac{3}{8}$″**-16x**$\frac{3}{4}$″ Hex. Hd. S. (Cad. Pl.) with $\frac{3}{8}$″ Pl. S. Lock Washer ($\frac{5}{32}$″x$\frac{1}{16}$″) (Cad. Pl.).	
	35	**Tap Bolt,** $\frac{5}{16}$″**-18x1**″ Hex. Hd. S. with $\frac{5}{16}$″ S. Plate Washer, $\frac{5}{16}$″ Hex. Nut and $\frac{5}{16}$″ Plain S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{8}$″).	
143512	36	**Clear Light Deflecting Prism** (2$\frac{5}{16}$″ Diam.)	B–8276–33
	37	**Style "H-2" Inoperative Lamp Unit Complete** (When ordering refer to Plate B-2892)	C–9158–8
90897	38	**Deflecting Prism Cover Glass** (10° Spread one direction) Used with 8$\frac{3}{8}$″ Lens	C–8901–8
90898	38a	**Deflecting Prism Cover Glass** (20° Spread one direction) Used with 8$\frac{3}{8}$″ lens	C–8901–8
170245	38b	**Spreadlite Prism Cover Glass** (15° Spread in each direction) Used with 8$\frac{3}{8}$″ lens	C–9105–12
174987	38c	**Spreadlite Prism Cover Glass** (8° Spread in each direction) Used with 8$\frac{3}{8}$″ lens	C–9105–12
137853	39	**Pin,** $\frac{7}{16}$″**x1**$\frac{5}{8}$″	B–10211–1
	40	**Packing Gasket, 1/4″x1/2″x3′ 3 1/2″.**	
	41	**Rivet,** $\frac{1}{8}$″**x**$\frac{3}{4}$″ Split Br.	

UNION SWITCH & SIGNAL CO.

STYLE "H-2" THREE POSITION COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

D. C. SEARCHLIGHT SIGNAL UNITS AND INOPERATIVE UNITS

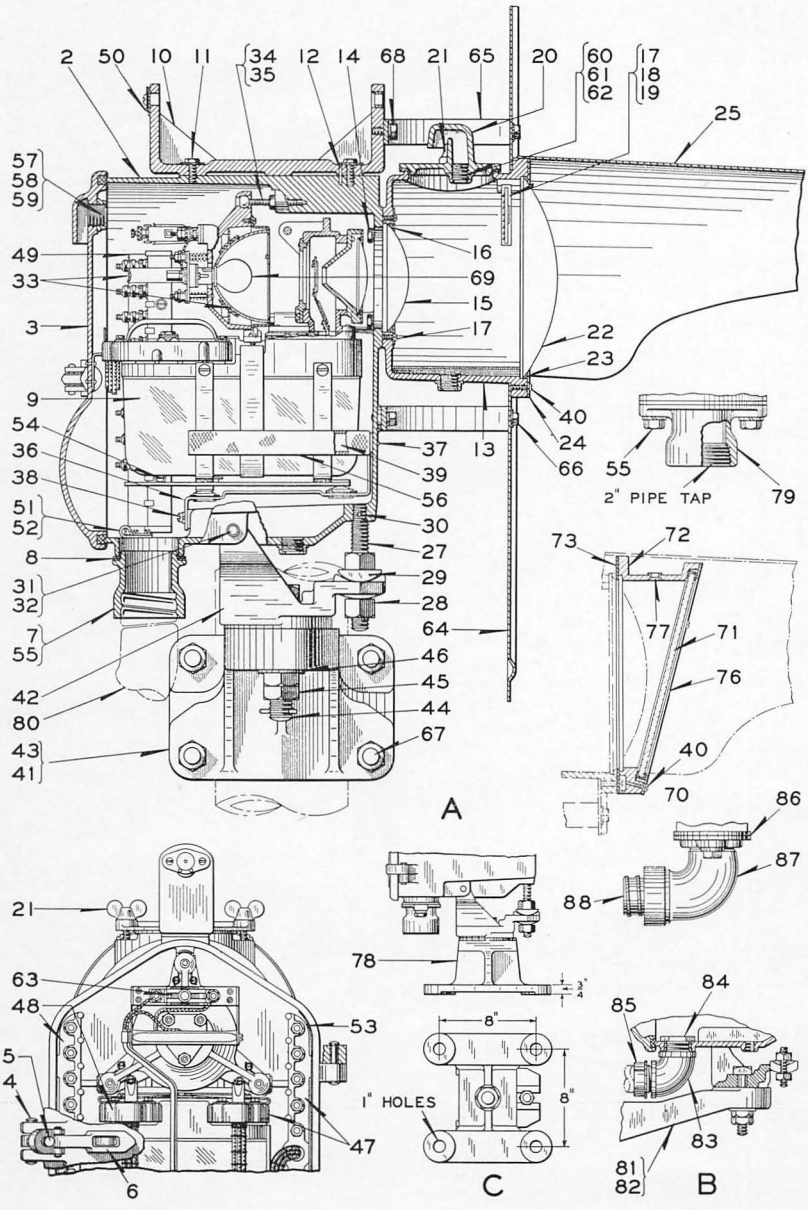
Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410528	**42**	**Stud.**	
11992	**43**	**Pin, .1875″x1 13/32″**	8097–92
	44	**Lamp** (When ordering refer to Plate B-2885)	B–12409–
410521	**45**	**Latch Block Complete** with two 3/16″x3/4″ Rd. Hd. I. Rivets.	
410527	**46**	**Latch Lock.**	
410529	**47**	**Latch Spring Complete** with two 1/8″x9/16″ Rd. Hd. I. Rivets.	
410319	**48**	**Staple.**	
175081	**49**	**Hasp Complete** with Latch Nut and Rivet	9925–30
	50	**Bolt, 1″x5″** with 1/4″x1 1/2″ Cotter, two Nuts Ref. 51 and Washer Ref. 52	8479–196
	51	**Hex. Jam Nut, 1″** (Cad. Pl.).	
80821	**52**	**Washer** for Ref. 50	7826–20
	53	**Cover Complete** with Gasket Ref. 54	C–9105–16
180927	**54**	**Gasket** for Ref. 53	8078–1503
116722	**55**	**Thumb Screw,** for attaching Ref. 53 to Case	8331–49

UNION SWITCH & SIGNAL CO.

MEMORANDA

MEMORANDA



Style "H-5" Searchlight Signal Unit

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

Unless otherwise specified Signal Units will be furnished as follows: 250-Ohm Operating Unit, Reference A, Plate B-2889-3; 2′-11″ diameter Background Reference 64; Cable Outlet Reference 7; U-Bolts and Mounting Bracket for application to 5″ Pipe Post.

The following material is optional and, if desired, orders should so state: Deflecting Cover Glass References 70 to 70e inclusive; Cable Outlets References 79 and 86; 20″ diameter Background Reference 64a; Phankill Unit as shown on Plate B-2878.

Inoperative Signal Units are shown on Plate B-2884.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "H-5" D.C. Color Light Searchlight Signal Unit with 250-Ohm Operating Unit, Background, Lamp, U-Bolts, Mounting Bracket, Conduit and Fittings. Orders should specify lamp (Plate B-2878).

Piece	Ref.	Mounting	Mounting Bracket	Drawing Reference
	A	Side of Mast	Ref. 41	C–16674–2
	B	Front, Side or Front Top of Mast	Ref. 81	C–16674–2
	C	Bridge or Platform	Ref. 78	C–16674–2

Piece	Ref.	Description	Drawing Reference
104285	**2**	**Case**	C–16671–10
104303	**3**	**Door** with Clip and Gasket	C–16671–11
	3a	**Gasket,** ⅜″x⅜″x3′-11½″ long, jute packing, for Ref. 3	
103712	**3b**	**Clip** for Ref. 3	11893–847
54937	**3c**	**Rivet** for attaching Clip to Door	10301–50
207907	**4**	**Pin**	B–10207–1
64973	**5**	**Eye Bolt** (Cad. Pl.)	8034–64
140207	**6**	**Hasp Complete**	8299–66
104275	**7**	**Cable Outlet** for 2″ S.S. Flexible S. Conduit	B–10342–103

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
210991	**8**	**Gasket**	8078–997
	9	**Style "H-5" Searchlight Signal Operating Unit Complete** (When ordering assemblies or details refer to Plate B-2889-3)	C–16673–1
210395	**10**	**Sight Bracket** with Tube, Screws, Sight and Clamp Plates	C–9105–11
	11	**Tap Bolt,** $\frac{5}{16}$"-18x$\frac{7}{8}$" Hex. Hd. S. (Cad. Pl.) with $\frac{5}{16}$" S. Plate Washer (Cad. Pl.)	
38851	**12**	**Pin**	8097–423
103738	**13**	**Lens Adapter**	C–16671–6
	14	**Tap Bolt,** $\frac{5}{16}$"-18x$\frac{5}{8}$" Hex. Hd. S. (Cad. Pl.) with $\frac{5}{16}$" Pl. S. Lock Washer ($\frac{5}{32}$"x$\frac{3}{32}$") (Cad. Pl.)	
169298	**15**	**4½" Diam. Clear Inner Lens**	B–8276–62
169544	**16**	**Lens Ring**	7436–141
	17	**Machine Screw,** No. 10-30x¼" Rd. Hd. Br. (N.P.)	
187830	**18**	**Prism Bracket**	8735–796
143512	**19**	**Close-Up Deflecting Prism**	B–8276–33
	20	**Cover** with Gasket	C–16671–6
210400	**20a**	**Gasket** for Ref. 20	8078–1503
73098	**21**	**Thumb Screw Complete**	8331–49
169299	**22**	**8⅜" Diam. Clear Outer Lens**	B–8276–63
131706	**23**	**Gasket**	8078–1367
71187	**24**	**Lens Ring**	7436–106
184414	**25**	**Lens Hood**	C–9105–26
	26	**Machine Screw,** No. 14-24x⅜" Rd. Hd. Br. (N.P.) for attaching Lens Ring to Lens Adapter (Not shown).	

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410528	**27**	**Stud.**	
	28	**Hex. Nut,** Std. ¾" (Cad. Pl.)	
146404	**29**	**Washer**	8065–201
11992	**30**	**Pin**	8097–92
144627	**31**	**Pin,** with ⅛"x¾" S. Cotter	B–10212–1
48750	**32**	**Washer**	7826–117
214525	**33**	**Reflector Complete** (Without Resistor) (When ordering assemblies or details refer to Plate B-2897)	C–16671–5
103717	**34**	**Stud** with Nut Ref. 34a	8114–916
1530	**34a**	**Nut** for Ref. 34	8109–38
180544	**35**	**Dowel Pin**	8097–409
221496	**36**	**Track Complete**	C–16671–17
	37	**Machine Screw,** No. 14-24x⅝" Flat Hd. Br. (N.P.)	
	38	**Machine Screw,** No. 14-24x½" Fil. Hd. Bz. (N.P.) with ¼" Pl. S. Lock Washer ($\frac{3}{32}$"x$\frac{1}{16}$") (Tin Pl.)	
104244	**39**	**Wire Chase Bracket**	10914–942
	40	**Machine Screw,** No. 10-30x⅜" Rd. Hd. Br. (N.P.)	
147517	**41**	**Bracket Complete** for Side of Mast mounting (Inc. 1-42, 1-43 and 1-44) For details refer to Ref. D, Plate B-2896	C–9105–9
144205	**42**	**Supporting Bracket**	C–9105–3
147483	**43**	**Adjusting Bracket**	C–9105–7
81667	**44**	**Bolt** with two Hex. Nuts Ref. 45, Washer Ref. 46 and ¼"x1½" S. Cotter (Tin Pl.)	8479–196
	45	**Hex. Jam Nut** Std. 1" (Cad. Pl.)	

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
80821	46	**Washer**	7826–20
104430	47	**R.H. Terminal Board Complete** (When ordering assemblies or details refer to Plate B-2897)	C–16671–7
103726	48	**L.H. Terminal Board Complete** (When ordering assemblies or details refer to Plate B-2897)	C–16671–7
104408	49	**Terminal Marker**	8988–163
	50	**Pin,** No. 16x⅜″ Br.	
104166	51	**Wire Clip**	11893–855
	52	**Machine Screw,** No. 8-36x$\frac{5}{16}$″ Fil. Hd. Br. (N.P.) for attaching Wire Clip to Case	
211607	53	**Cork Gasket**	8078–1578
	54	**Machine Screw,** No. 14-24x1″ Fil. Hd. Bz. (N.P.)	
	55	**Machine Bolt,** ½″-13x1½″ Hex. Hd. S. (Cad. Pl.) with ½″ Pl. S. Lock Washer ($\frac{7}{32}$″x$\frac{5}{32}$″) (Cad. Pl.) for attaching Cable Outlet to Case	
105392	56	**Ins. Sleeve**	8095–732
213626	57	¾″ **Nipple** for Case and Door	B–10375–4
213628	58	¾″ **Ventilator** for Case and Door	7318–72
	59	¾″ **Conduit Bushing** for Case and Door.	
213623	60	½″ **Nipple** for Lens Adapter	B–10375–4
213627	61	½″ **Ventilator** for Lens Adapter	7318–72
	62	½″ **Conduit Bushing** for Lens Adapter	
150318	63	**Resistor** (1-Ohm)	9065–186
144909	63a	**Resistor** (2-Ohms)	9065–186
144910	63b	**Resistor** (5-Ohms)	9065–186

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
144459	**64**	**Background,** 2′-11″ Diam.	C–9105–6
213322	**64a**	**Background,** 20″ Diam.	C–9105–17
210318	**65**	**Support** (for 2′-11″ Diam. background)	10914–458
213321	**65a**	**Support** (for 20″ Diam. background)	10914–1025
165462	**66**	**Bolt** with Washer Ref. 66a, Nut Ref. 66b and $\frac{5}{16}$″ Pl. S. Lock Washer ($\frac{5}{32}$″x$\frac{3}{32}$″) (Cad. Pl.)	8190–261
1669	**66a**	**Washer** for Ref. 66	7828–24
1650	**66b**	**Nut** for Ref. 66	8109–58
43931	**67**	**U-bolt** with ¾″ Hex. Nuts (Cad. Pl.) for 5″ Pipe	8782–66
44199	**67a**	**U-bolt** with ¾″ Hex. Nuts (Cad. Pl.) for 6″ Pipe	8782–69
97657	**67b**	**U-bolt** with ¾″ Hex. Nuts (Cad. Pl.) for 5″ Casing	8782–66
	68	**Tap Bolt,** ⅜″-16x¾″ Hex. Hd. S. (Cad. Pl.) with ⅜″ Pl. S. Lock Washer ($\frac{11}{64}$″x$\frac{7}{64}$″) (Cad. Pl.)	
	69	**Lamp** (When ordering refer to Plate B-2878)	B–12409–
184403	**70**	**10° Deflecting Cover Glass and Adapter Ring Complete** (10° deflection horizontally to left)	C–9105–25
184504	**70a**	**10° Deflecting Cover Glass and Adapter Ring Complete** (10° deflection horizontally to right)	C–9105–25
184404	**70b**	**20° Deflecting Cover Glass and Adapter Ring Complete** (20° deflection horizontally to left)	C–9105–25
184505	**70c**	**20° Deflecting Cover Glass and Adapter Ring Complete** (20° deflection horizontally to right)	C–9105–25
184405	**70d**	**30° Spreadlite Cover Glass and Adapter Ring Complete** (15° spread horizontally in each direction)	C–9105–25
228584	**70e**	**16° Convex Spreadlite Cover Glass and Adapter Ring Complete** (8° spread horizontally in each direction)	C–9105–25

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
222600	**71**	**8⅜" Diam., 10° Deflecting Cover Glass with Gasket** for Refs. 70 and 70a	B–8276–77
199883	**71a**	**8⅜" Diam., 20° Deflecting Cover Glass with Gasket** for Refs. 70b and 70c	B–8276–77
216441	**71b**	**8⅜" Diam., 30° Spreadlite Cover Glass with Gasket** for Ref. 70d	B–8276–79
182209	**71c**	**8⅜" Diam. Convex 16° Spreadlite Cover Glass with Gasket** for Ref. 70e	B–8276–76
207803	**72**	**Adapter Ring**	C–9105–24
90893	**73**	**Gasket**	8078–1318
	74	**Screw,** No. 14-24x1⅜" Fil. Hd. Bz. for attaching Refs. 70 to 70e inclusive to Lens Adapter (Not shown)	
	75	**Screw,** No. 14-24x1⅞" Fil. Hd. Bz. for attaching Refs. 70 to 70e inclusive to Lens Adapter (Not shown)	
184578	**76**	**Lens Ring**	7436–106
84244	**77**	**Ventilator**	7318–64
104579	**78**	**Base** for mounting on bridge or platform	C–16671–13
104585	**79**	**Cable Outlet** with 2" Pipe Tap	B–10342–103
	80	**Conduit,** 2" S.S. Flexible Steel, 16¾" long	
194419	**81**	**Bracket Complete** for front, side or front top of Mast mounting (Inc. 1-42, 1-44 and 1-82) For details refer to Ref. A, Plate B-2896	C–9105–9
162983	**82**	**Adjusting Bracket**	C–9105–15
	83	**2" Galv. M. I. Ell**	
	84	**2" Galv. Nipple**	

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

D. C. Searchlight Signal Unit for High and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	85	**2″ Galv. M. I. Straight Box Connector**	
218330	86	**Cable Outlet with Gasket** Ref. 86a (With 1½″ Pipe Tap)	B–10342–124
210991	86a	**Gasket**	8078–997
	87	**1½″ M. I. Galv. 90° Street Ell**	
	88	**1½″ M.I. Straight Box Connector** (Cad. Pl.) for S.S. Flex. S. Conduit	

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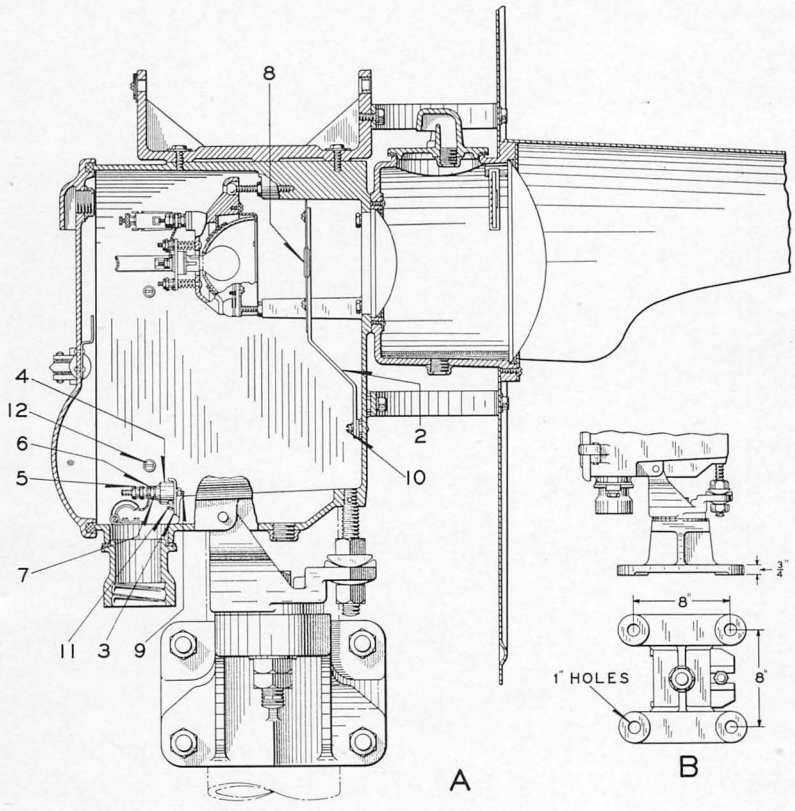
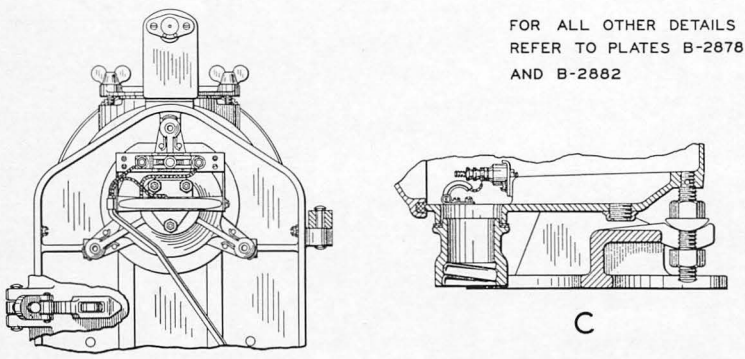


FOR ALL OTHER DETAILS
REFER TO PLATES B-2878
AND B-2882



Style "H-5" Inoperative Signal Unit

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

Inoperative Signal Unit for High, Dwarf and Bridge Signals

Unless otherwise specified, Signal Units will be furnished as follows: High and Bridge Signals:—2′-11″ diameter Background Reference 64 of Plate B-2882; Cable Outlet Reference 7 of Plate B-2882: U-Bolts and Mounting Bracket for application to 5″ Pipe Post. Dwarf Signals:—10° Deflecting Cover Glass Reference 49 of Plate B-2878; Cable Outlet Reference 7 of Plate B-2878.

The following material is optional and, if desired, orders should so state:

High and Bridge Signals:—Deflecting Cover Glass References 70 to 70e of Plate B-2882; Cable Outlets References 79 and 86 of Plate B-2882; 20″ diameter Background Reference 64a of Plate B-2882; Phankill Unit as shown on Plate B-2878.

Dwarf Signals:—Sight Bracket Reference 68 of Plate B-2878; 20° Deflecting Cover Glass Reference 49a of Plate B-2878; Cable Outlets References 73, 74 and 85 of Plate B-2878; Signal without Deflecting Cover Glass; Phankill Unit Reference 84 of Plate B-2878.

For all details not shown on this Plate refer to Plate B-2882 for High and Bridge Signal Units and to Plate B-2878 for Dwarf Signals.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "H-5" D.C. Color Light Searchlight Signal Unit with Background, Lamp, U-Bolts, Mounting Bracket, Conduit and Fittings. Orders should specify lamp (Plate B-2878).

Piece	Ref.	Mounting	Mounting Bracket	Drawing Reference
	A	Side of Mast	Ref. 41, Plate B-2882	C–16674–4
	Aa	Front, Side or Front Top of Mast	Ref. 81, Plate B-2882	C–16674–4
	B	Bridge or Platform	Ref. 78, Plate B-2882	C–16674–4

Piece	Ref.	Description	Drawing Reference
	C	**Style "H-5" Inoperative One Unit Dwarf Signal** with Red Roundel and Lamp. Orders should specify lamp (Plate B-2878)	C–16674–1
	Ca	**Style "H-5" Two Unit Dwarf Signal with Inoperative Bottom Unit and Operative Top Unit.** Inoperative Unit with Red Roundel and Lamp. Operative Unit with 250-Ohm operating unit, Ref. A, Plate B-2889-3 and lamp. Orders should specify lamps (Plate B-2878)	C–16674–5

Style "H-5" D. C. Three-Position Color Light Searchlight Signal

Detail Parts

Inoperative Signal Unit for High, Dwarf and Bridge Signals

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
107178	**2**	**Roundel Holder Complete**	C–16671–14
107172	**3**	**Terminal Board Bracket**	10914–1038
	4	**Terminal Block with Nuts and Washers** (Inc. 1-4a, 4-5, 6-6 and 2-7)	9968–1100
181832	**4a**	**Terminal Block** without Nuts and Washers	9968–1100
29101	**5**	**Nut**	8109–193
29102	**6**	**Washer**	7828–139
127260	**7**	**Nut**	8109–194
410431	**8**	**Red Roundel**	410430–1
	9	**Machine Screw,** No. 10-30x$\frac{5}{8}$″ Fil. Hd. S. (Tin Pl.) with No. 10 Pl. S. Lock Washer ($\frac{1}{16}$″x$\frac{3}{64}$″) (Tin Pl.) and No. 10 Hex. Nut (Tin Pl.)	
	10	**Machine Screw,** No. 14-24x$\frac{5}{8}$″ Fil. Hd. Bz. (N.P.) with $\frac{1}{4}$″ Pl. S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{16}$″) Tin Pl.)	
	11	**Machine Screw,** No. 14-24x$\frac{1}{2}$″ Fil. Hd. Bz. (N.P.) with $\frac{1}{4}$″ Pl. S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{16}$″) (Tin Pl.)	
	12	**Machine Screw,** No. 14-24x$\frac{3}{8}$″ Fil. Hd. Bz. (N.P.) with $\frac{1}{4}$″ Pl. S. Lock Washer ($\frac{3}{32}$″x$\frac{1}{16}$″) (Tin Pl.)	

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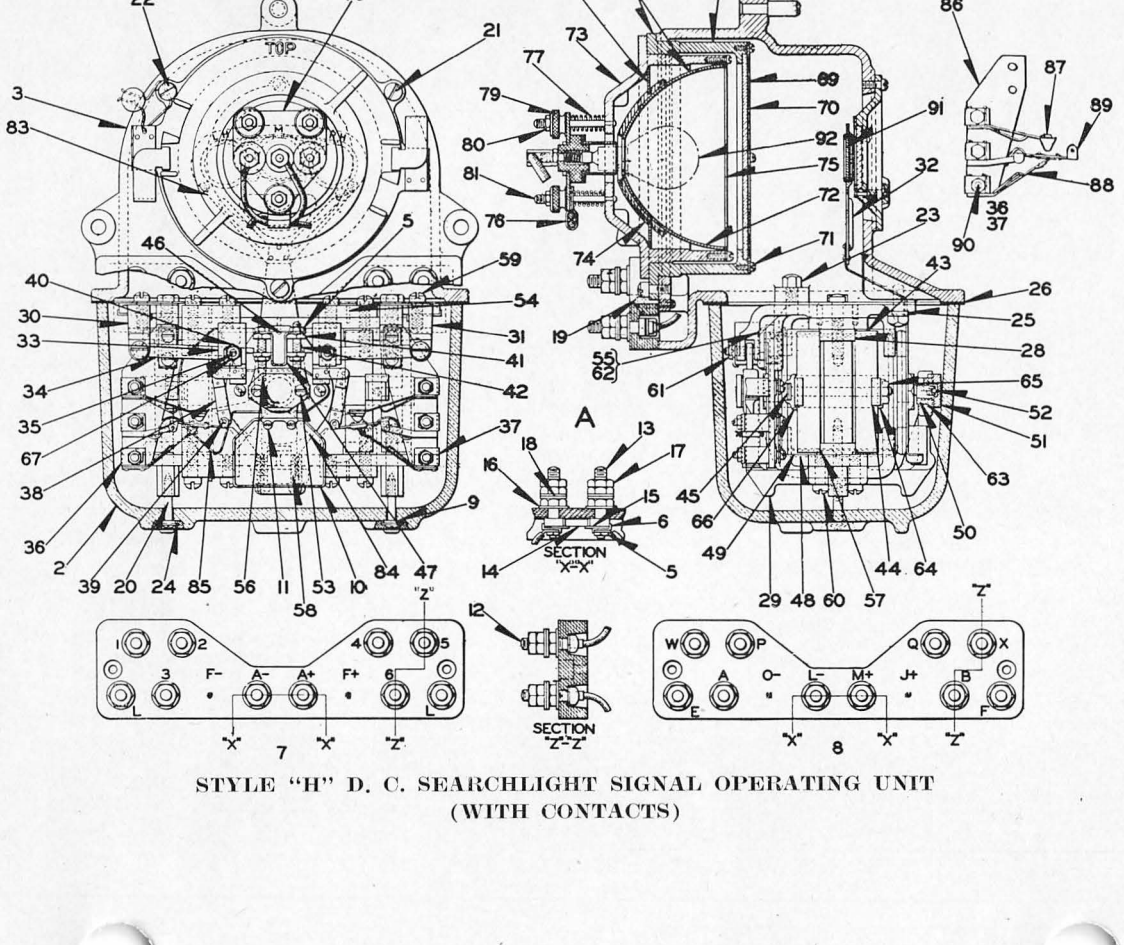

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT
(WITH CONTACTS)

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "H" D.C. Searchlight Signal Operating Unit with Contacts complete (Without Lamp).

Piece	Ref.	Armature Coil Res.	Operating Voltage	Term. Bd. Ref.	L.H. Roundel	Middle Roundel	R.H. Roundel	Drawing Reference
166447	**A**	250-ohms	6-8 Volts	7	Yellow	Red	Green	C–9157–2
168637	**Aa**	250-ohms	6-8 Volts	7	White	Red	Green	C–9157–2
169949	**Ab**	250-ohms	6-8 Volts	7	Yellow	Purple	Green	C–9157–2
173703	**Ac**	250-ohms	6-8 Volts	7	Yellow	Red	Red	C–9157–2
173812	**Ad**	250-ohms	6-8 Volts	7	Yellow	Purple	Purple	C–9157–2
173975	**Ae**	250-ohms	6-8 Volts	7	Red	Red	Green	C–9157–2
177209	**Af**	250-ohms	6-8 Volts	7	Yellow	Yellow	Green	C–9157–2
169688	**Ag**	250-ohms	6-8 Volts	8	Green	Red	Yellow	C–9157–2
167556	**Ah**	500-ohms	8-10 Volts	7	Yellow	Red	Green	C–9157–2
174144	**Aj**	500-ohms	8-10 Volts	7	Red	Red	Green	C–9157–2
174145	**Ak**	500-ohms	8-10 Volts	7	Yellow	Red	Red	C–9157–2
178405	**Am**	500-ohms	8-10 Volts	7	Yellow	Yellow	Green	C–9157–2

Piece	Ref.	Description	Drawing Reference
141439	**2**	**Lower Glass Case**	8163–292
144011	**3**	**Upper Case**	C–9158–4
173693	**4**	**Reflector Complete** with Lamp Socket and Retaining Ring	C–9158–5

PLATE B-2885

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
164263	**4a**	**Reflector Complete** with Lamp Socket and Retaining Ring (Jam Nuts tightened but not soldered)	C–9158–5
29956	**5**	**Nut No. 8-36** tap (For operating units furnished prev. to 4 /29 /31)	8109–202
176619	**5a**	**Nut No. 12-32** tap (For operating units furnished since 4 /29 /31)	8109–70
29353	**6**	**Lock Washer .1695″** dia. hole (For units furnished prev. to 4 /29 /31)	8486–106
168115	**6a**	**Lock Washer .228″** dia. hole (For units furnished since 4 /29 /31)	8486–405
	7	**Terminal Board Complete** with Posts, Nuts and Washers (Inc. 1-7a, 8-12, 2-13 and 1-14)	9968–806
143602	**7a**	**Terminal Board only,** for Ref. 7	9968–806
	8	**Terminal Board Complete** with Posts, Nuts and Washers (Inc. 1-8a, 8-12, 2-13 and 1-14)	9968–850
150174	**8a**	**Terminal Board only,** for Ref. 8	9968–850
37398	**9**	**Washer**	8274–67
169512	**10**	**Name Plate**	8225–384
	11	**Machine Screw, No. 4-48x¼″** Rd. Hd. Br. (N. P.).	
	12	**Terminal Post Complete** with Nuts and Washers (Inc. 1-12a, 1-16, 3-17 and 2-18)	12451–
141688	**12a**	**Terminal Post only,** for Ref. 12	8094–1192
	13	**Terminal Post Complete** with Nuts and Washers (Inc. 1-13a, 1-5, 1-6, 1-15, 1-16, 3-17 and 2-18)	12451–
141689	**13a**	**Terminal Post only,** for Ref. 13	8094–2179

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410560	**14**	**Connector**	410561
410561	**15**	**Clip.**	
29104	**16**	**Washer**	7828–138
29103	**17**	**Nut**	8109–194
29102	**18**	**Washer**	7828–139
	19	**Machine Screw, No. 10-30x5/8″** Fil. Hd. Br. (N.P.).	
	20	**Machine Screw, No. 10-30x7/8″** Rd. Hd. S.	
	21	**Machine Screw, No. 10-30x1/2″** Fil. Hd. S. (Cad. Pl.).	
153231	**22**	**Screw**	8098–868
	23	**Cap Screw, 1/4″-20x5/8″** Hex. Hd. S. (Cad. Pl.).	
74636	**24**	**Nut Lock**	8486–197
54713	**25**	**Lock Washer**	8486–267
141654	**26**	**Gasket**	8078–1434
	27	**Terminal Post Complete** with Nut and Washer (Inc. 1-12a, 1-16 and 1-17) Used for Dummy Post (Not shown).	
166446	**28**	**Magnet Core Complete** with Spacers, Backstraps, Pole Pieces and Screws	C–9158–6
141711	**29**	**Armature Bracket**	C–9158–2
141709	**30**	**L. H. Supporting Arm**	C–9158–2
141710	**31**	**R. H. Supporting Arm**	C–9158–2

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
170685	**32**	**Armature Assembly Complete** with Spectacle, 250-Ohm Coil, Armature, Pole Shoes, Rollers and Pins (Without Roundels) for Refs. A to Ag	C–9158–3
167553	**32a**	**Armature Assembly Complete** with Spectacle, 500-Ohm Coil, Armature, Pole Shoes, Rollers and Pins (Without Roundels) for Refs. Ah to Am	C–9158–3
167044	**33**	**Counterweight** with Set Screw Ref. 35a, Nut Ref. 5a and Lock Washer Ref. 6a	9672–192
141682	**34**	**Operating Arm**	11893–340
141726	**35**	**Set Screw, No. 8-36** thread (for units furnished prev. to 4 /29 /31)	8098–1297
176618	**35a**	**Set Screw, No. 12-32** thread (for units furnished since 4 /29 /31)	8098–1157
141707	**36**	**L. H. Contact Spring Board Complete** with Contact Springs, Nuts and Washers	9968–783
141708	**37**	**R. H. Contact Spring Board Complete** with Contact Springs, Nuts and Washers	9968–783
141679	**38**	**Link Complete** with Insulation and Rivets	8232–187
141701	**39**	**Pin**	8097–852
168115	**40**	**Lock Washer**	8486–405
141675	**41**	**Nut**	8109–324
141698	**42**	**Screw**	8098–583
166555	**43**	**Permanent Magnet**	12586–7
166554	**44**	**Magnet Clip**	11893–533
167037	**45**	**Screw**	8094–1039

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
160992	**46**	**Nut Lock**	8486–155
160993	**47**	**Nut Lock**	8486–396
178520	**48**	**Insulation**	8750–2526
141676	**49**	**Coil Spacer**	10914–100
168941	**50**	**Bearing**	8350–806
168942	**51**	**Bearing Cap**	8350–807
	52	**Steel Ball, 1/8″** diam. (first grade).	
	53	**Machine Screw, No. 8-36x1/2″** Flat Hd. Br. (N.P.).	
57496	**54**	**Pin**	8097–872
119318	**55**	**Screw**	8098–464
54928	**56**	**Rivet**	10301–21
25948	**57**	**Pin**	8097–167
37409	**58**	**Pin**	8097–336
	59	**Machine Screw, No. 14-24x9/16″** Fil. Hd. S. (Cad. Pl.).	
	60	**Machine Screw, No. 14-24x5/8″** Fil. Hd. S. (Cad. Pl.).	
141684	**61**	**Pivot Screw**	8378–345
74798	**62**	**Lock Washer**	8486–155
169192	**63**	**Washer .002″ thick**	7828–368
169193	**63a**	**Washer .005″ thick**	7828–368
169674	**63b**	**Washer .010″ thick**	7828–368

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
47483	**64**	**Lock Washer**	8486–197
26545	**65**	**Nut**	8109–181
167004	**66**	**Lock Washer**	8486–362
176619	**67**	**Nut**	8109–70
145174	**68**	**Retaining Ring Complete** with Spring	C–9158–2
410546	**69**	**Reflector Glass.**	
146718	**70**	**Roundel Ring**	7632–228
	71	**Machine Screw, No. 4-48x1/4"** Fil. Hd. Br. (N. P.).	
149100	**72**	**Reflector**	B–12552–7
149106	**73**	**Reflector Holder**	C–9158–6
149103	**74**	**Gasket**	8078–1042
149095	**75**	**Roundel Ring**	7632–229
410563	**76**	**Wire Clip**	410563
149104	**77**	**Spring**	8124–218
148204	**78**	**Lamp Socket**	12415–12
35790	**79**	**Nut**	8109–239
1515	**80**	**Nut**	8109–23
149105	**81**	**Stud**	8114–361
151300	**82**	**Washer**	7828–346
141718	**83**	**Spectacle** (Without Roundels)	C–9158–3

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
170724	**84**	**Coil, 250-Ohms**	8133–398
178942	**84a**	**Coil, 500-Ohms**	8133–398
141673	**85**	**Pole Shoe (R. H.)**	8250–76
141674	**85a**	**Pole Shoe (L. H.)**	8250–76
141650	**86**	**Terminal Board**	9968–779
141694	**87**	**Contact Spring** Complete with Block and Tip for Ref. 36	8385–2070
141695	**87a**	**Contact Spring** Complete with Block and Tip for Ref. 37	8385–2070
141697	**88**	**Contact Spring** Complete with Block and Tip for Ref. 36	8385–2071
141699	**88a**	**Contact Spring** Complete with Block and Tip for Ref. 37	8385–2071
141704	**89**	**Contact Spring** Complete with Block and Link for Ref. 36	8385–2069
141705	**89a**	**Contact Spring** Complete with Block and Link for Ref. 37	8385–2069
	90	**Machine Screw, No. 8-36x1″** Fil. Hd. Br. (N.P.) with two Washers Ref. 90a, one Lock Washer Ref. 6 and Nut Ref. 5.	
17376	**90a**	**Washer**	7828–66
410430	**91**	**Green Roundel**	410430–1
413675	**91a**	**Yellow Roundel**	410430–1
410431	**91b**	**Red Roundel**	410430–1
410436	**91c**	**Purple Roundel**	410430–1
163378	**91d**	**White Roundel**	C–9158–5

PLATE B-2885

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT
(WITH CONTACTS)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
145877	**92**	**Lamp,** 11-Volts, 11-Watts, single contact.....	B–12409–18
151138	**92a**	**Lamp,** 10-Volts, 18-Watts, single contact.....	B–12409–18
142967	**92b**	**Lamp,** 8-Volts, 10-Watts, single contact.....	B–12409–18
168741	**92c**	**Lamp,** 8-Volts, 5-Watts, single contact.....	B–12409–18
159440	**92d**	**Lamp,** 8-Volts, 13-Watts, single contact Double Filament (13-Watts, main filament, 3.5 Watts secondary filament).....	B–12409–24

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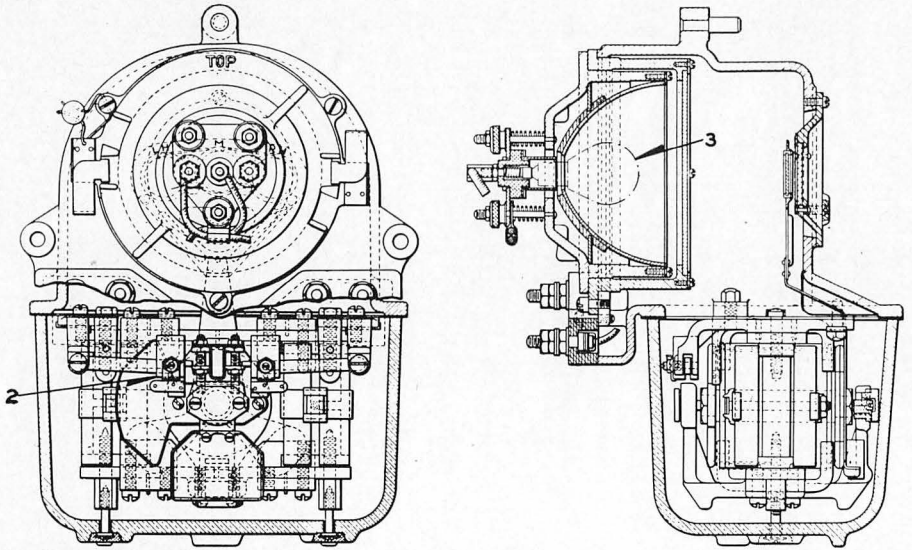

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FOR OTHER DETAILS
REFER TO PLATE B-2885

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT
(WITHOUT CONTACTS)

UNION SWITCH & SIGNAL CO.

STYLE "H" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITHOUT CONTACTS)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
170717	**A**	**Style "H" D.C. Searchlight Signal Operating Unit** (Armature Coil Resistance 250-ohms, operating voltage 6-8 volts) and with L. H. Roundel Yellow, middle Roundel Red and R. H. Roundel Green with Terminal Board Ref. 7, Plate B-2885 (If different colors or arrangement of roundels are desired orders should so state) without Lamp Ref. 3..	C–9157–2
173856	**Aa**	**Style "H" D.C. Searchlight Signal Operating Unit** (Armature Coil Resistance 250-ohms, operating voltage 6-8 Volts) and with L. H. Roundel Yellow, Middle Roundel Green and R. H. Roundel Red with Terminal Board Ref. 7, Plate B-2885 (If different colors or arrangement of roundels are desired orders should so state) without Lamp Ref. 3..	C–9157–2
	Ab	**Style "H" D.C. Searchlight Signal Operating Unit** (Armature Coil Resistance 500-ohms, operating voltage 8-10 Volts) and with L. H. Roundel Yellow, Middle Roundel Red and R. H. Roundel Green with Terminal Board Ref. 7, Plate B-2885 (If different colors or arrangement of roundels are desired orders should so state) without Lamp Ref. 3..	C–9157–2
152865	**2**	**Counterweight Complete** with Set Screw, Nut and Lock Washer.....	9672–192
	3	**Lamp** (When ordering refer to Plate B-2885).....	B–12409–
		For other details refer to Plate B-2885.	

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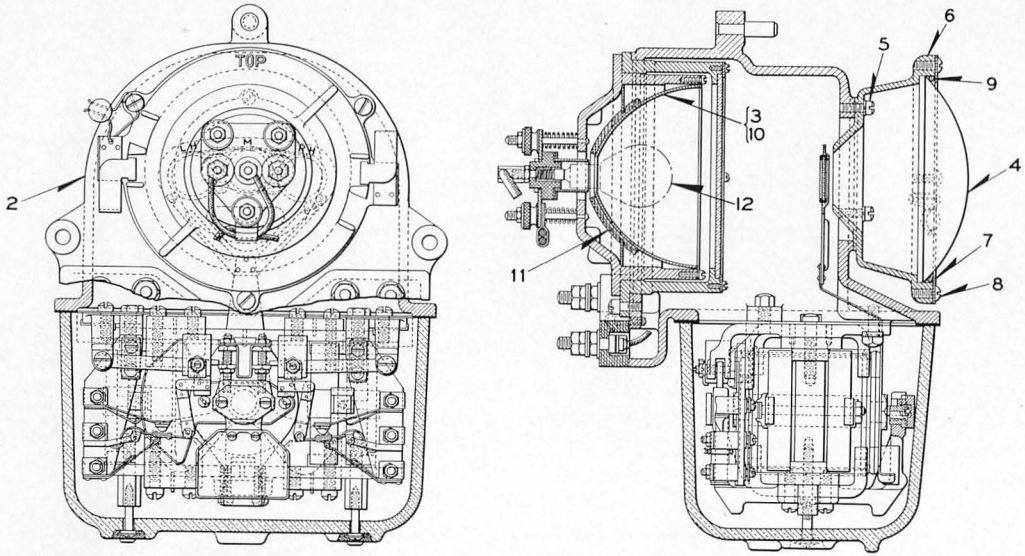

FOR OTHER DETAILS
REFER TO PLATE B-2885

A

STYLE "H-2" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT
(WITH CONTACTS)

UNION SWITCH & SIGNAL CO.

STYLE "H-2" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

D. C. Style "H-2" D. C. Searchlight Signal Operating Unit with Contacts complete (Without Lamp)

Piece	Ref.	Armature Coil Res.	Operating Voltage	Term. Bd. Ref. Plate B-2885	L.H. Roundel	Middle Roundel	R.H. Roundel	Drawing Reference
169602	**A**	250-ohms	6-8 Volts	7	Yellow	Red	Green	C–9157–10
171666	**Aa**	250-ohms	6-8 Volts	7	Yellow	Purple	Green	C–9157–10
176998	**Ab**	250-ohms	6-8 Volts	7	Yellow	Red	Red	C–9157–10
175982	**Ac**	250-ohms	6-8 Volts	8	Green	Red	Yellow	C–9157–10
177596	**Ad**	500-ohms	8-10 Volts	7	Yellow	Red	Green	C–9157–10
177597	**Ae**	500-ohms	8-10 Volts	7	Yellow	Red	Red	C–9157–10
177598	**Af**	500-ohms	8-10 Volts	7	Red	Red	Green	C–9157–10
181006	**Ag**	250-ohms	6-8 Volts	7	White	Red	Green	C–9157–10
181050	**Ah**	250-ohms	6-8 Volts	7	Yellow	Red	Yellow	C–9157–10
181079	**Aj**	250-ohms	6-8 Volts	8	Red	Red	Yellow	C–9157–10
182268	**Ak**	250-ohms	6-8 Volts	7	Yellow	Purple	Purple	C–9157–10

Piece	Ref.	Description	Drawing Reference
169547	**2**	**Upper Case**	C–9158–4
171634	**3**	**Reflector Complete** with Lamp Socket and Retaining Ring	C–9158–5
	3a	**Reflector Complete** with Lamp Socket and Retaining Ring (Jam Nuts tightened but not soldered)	C–9158–5

UNION SWITCH & SIGNAL CO.

STYLE "H-2" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITH CONTACTS) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
169298	**4**	**Lens**	B–8276–62
	5	**Machine Screw, No. 10-30x1/2″** Fil. Hd. S. (Cad. Pl.) with 3/16″ Plain S. Lock Washer (1/16″x1/16″) Cad. Pl.	
167997	**6**	**Adapter**	C–9105–16
169544	**7**	**Lens Ring**	7436–141
	8	**Machine Screw, No. 10-30x1/4″** Rd. Hd. S. (Cad. Pl).	
	9	**Cork Gasket,** 5/32″ diam. x 14″ Long.	
169708	**10**	**Reflector only**	B–12652–7
169703	**11**	**Gasket**	8078–1042
	12	**Lamp** (When ordering refer to Plate B-2885)	B–12409–
		For other details refer to Plate B-2885.	

UNION SWITCH & SIGNAL CO.

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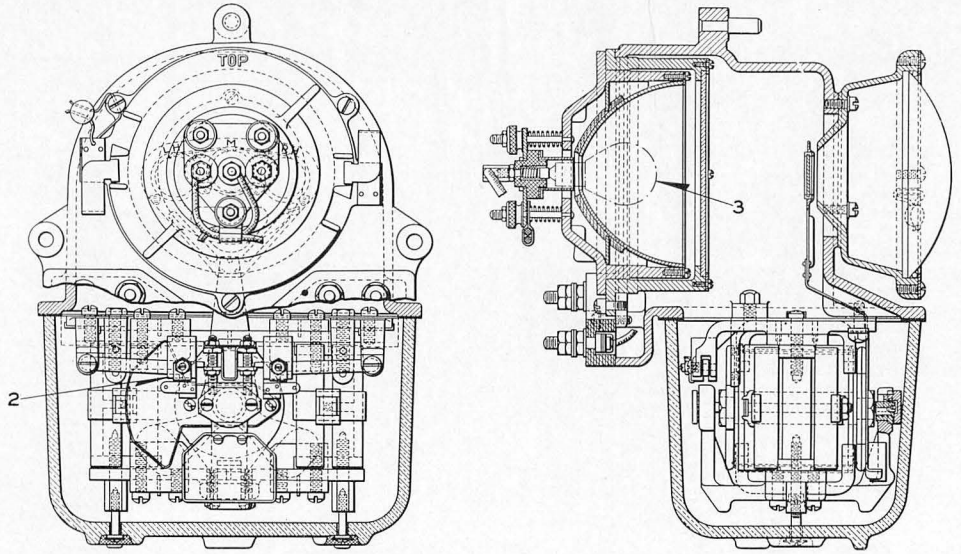

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FOR OTHER DETAILS
REFER TO PLATES
B-2885 AND B-2888

STYLE "H-2" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT
(WITHOUT CONTACTS)

UNION SWITCH & SIGNAL CO.

STYLE "H-2" D. C. SEARCHLIGHT SIGNAL OPERATING UNIT (WITHOUT CONTACTS)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**Style "H-2" D.C. Searchlight Signal Operating Unit** (Armature Coil Resistance 250-ohms, operating voltage 6-8 Volts) with L. H. roundel Yellow, middle roundel Red and R. H. roundel Green, Terminal Board Ref. 7, Plate B-2885 (If different colors or arrangement of Roundels are desired orders should so state) without Lamp Ref. 3.....	C–9157–10
169784	Aa	**Style "H-2" D.C. Searchlight Signal Operating Unit** (Armature Coil Resistance 500-ohms, operating voltage 8-10 Volts) with L. H. roundel Yellow, middle roundel Red and R. H. roundel Green, Terminal Board Ref. 7, Plate B-2885 (If different colors or arrangement of roundels are desired orders should so state) without Lamp Ref. 3.....	C–9157–10
152865	2	**Counterweight Complete** with Set Screw, Nut and Lock Washer.....	9672–192
	3	**Lamp** (When ordering refer to Plate B-2885).....	B–12409–
		For other details refer to Plates B-2885 and B-2888.	

DETAIL PARTS

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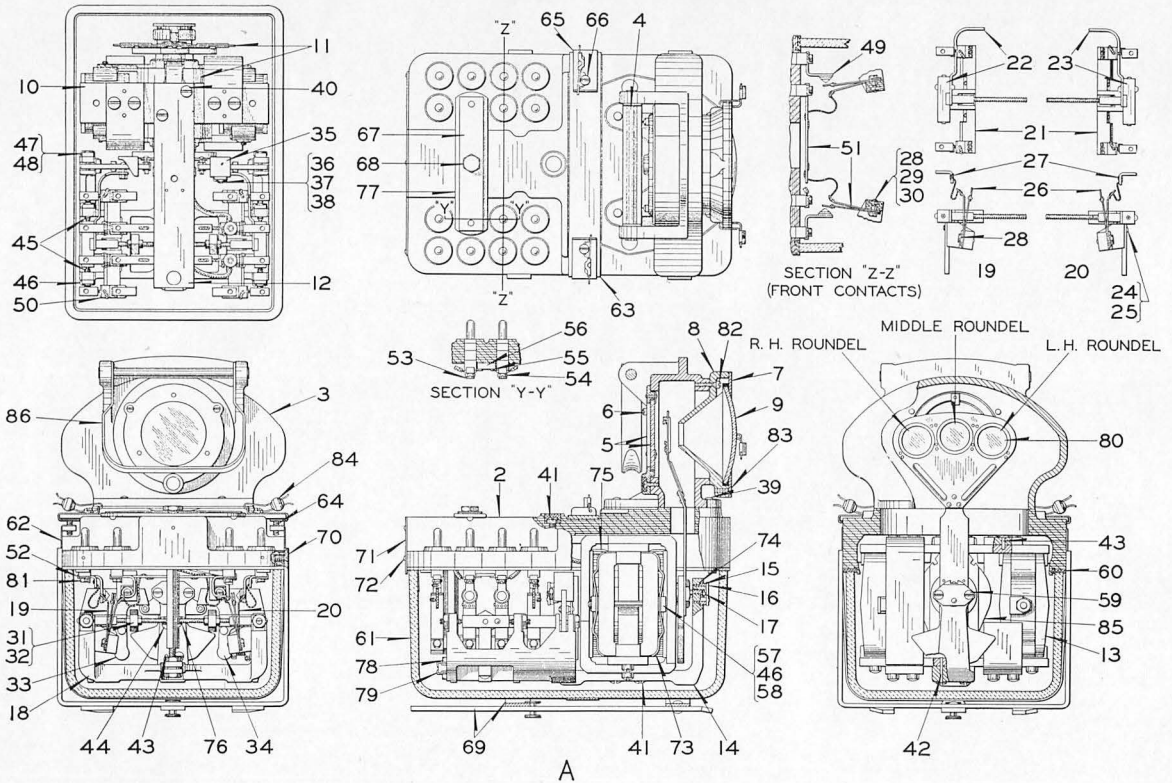

Operating Units for "H-5" Searchlight Signals

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Operating Units

250-Ohms operating units are adjusted for 5.5 volt P.U. and working at 70° F. P.U. and working at 150° F. will be 6.5 volts.

500-Ohms operating units are adjusted for 8 volt P.U. and working at 70° F. P.U. and working at 150° F. will be 9.35 volts.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "H-5" D.C. Searchlight Signal Operating Unit.

Piece	Ref.	Armature Coil Res.	L. H. Roundel	Middle Roundel	R. H. Roundel	Drawing Reference
103700	**A**	250-Ohms	Yellow	Red	Green	C–16673–1
213342	**Aa**	250-Ohms	Yellow	Purple	Blank	C–16673–1
213343	**Ab**	250-Ohms	Yellow	Red	Blank	C–16673–1
214733	**Ac**	250-Ohms	Yellow	Purple and Red (Ref. 80e)	Green	C–16673–1
224871	**Ad**	250-Ohms	Yellow	Purple and Red (Ref. 80d)	Green	C–16673–1
210705	**Ae**	500-Ohms	Yellow	Red	Green	C–16673–1
210702	**Af**	500-Ohms	Yellow	Red	Blank	C–16673–1
210703	**Ag**	500-Ohms	Yellow	Purple and Red (Ref. 80d)	Green	C–16673–1
210704	**Ah**	500-Ohms	Yellow	Purple and Red (Ref. 80d)	Blank	C–16673–1
215145	**Aj**	500-Ohms	Blank	Red	Green	C–16673–1
215773	**Ak**	500-Ohms	Blank	Yellow	Green	C–16673–1
218186	**Am**	500-Ohms	Yellow	Red	Red	C–16673–1
218684	**An**	500-Ohms	Yellow	Purple and Red (Ref. 80e)	Green	C–16673–1
223619	**Ap**	500-Ohms	Yellow	Purple	Blank	C–16673–1

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Operating Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
103705	**2**	**Top Plate**	C –16672–1
103737	**3**	**Upper Case** with Glass Shields and Handle	C–16672–4
210426	**4**	**Pin** for Ref. 3	B –10206–1
141661	**5**	**Roundel Ring Complete** for Ref. 3	7632–226
	6	**Machine Screw,** No. 6-40x3/8" Fil. Hd. Br. (N.P.) for Ref. 3.	
223930	**7**	**Retaining Ring** for Ref. 3	11893–938
223928	**8**	**Roundel Ring**	7632–248
223929	**9**	**3-1/8" Diameter Roundel**	8468–87
103802	**10**	**Field Magnet Assembly Complete**	C–16672–7
103781	**11**	**Armature Assembly Complete** (Includes Pole Shoes, 250-Ohm Coil, Armature and Spectacle, without Roundels) for Refs. A to Ad inc.	C–16672–7
210710	**11a**	**Armature Assembly Complete** (Includes Pole Shoes, 500-Ohm Coil, Armature and Spectacle, without Roundels) for Refs. Ae to Ap inc.	C–16672–7
107526	**12**	**Supporting Strap Complete**	9999–1403
103720	**13**	**Permanent Magnet**	12586–15
103776	**14**	**Armature Bracket**	C–16672–5
191779	**15**	**Knife Edge Bearing Complete**	12737–1
191778	**16**	**Cap**	12737–2
	17	**Steel Ball,** 1/8" diameter	
106904	**18**	**Contact Bracket** with Stop Screws	C–16672–2
103734	**19**	**L.H. Contact Armature Assembly Complete**	9968–1231
103735	**20**	**R.H. Contact Armature Assembly Complete**	9968–1232
103733	**21**	**Contact Spring Block**	9968–1230

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Operating Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
103746	**22**	**L.H. Armature Complete** for Ref. 19	8157–444
103745	**23**	**R.H. Armature Complete** for Ref. 20	8157–444
142673	**24**	**Screw**	8098–1300
155340	**25**	**Nut Lock**	8486–368
103632	**26**	**Contact Spring Complete**	8385–2565
103773	**27**	**Connector Complete**	8064–847
	28	**Screw** with Nut Lock Ref. 29 and Nut Ref. 30	12471–
150166	**28a**	**Screw Only,** for Ref. 28	8098–550
171092	**29**	**Nut Lock**	8486–405
151836	**30**	**Nut**	8109–445
103770	**31**	**Counterweight**	8109–492
32498	**32**	**Nut**	8109–223
103809	**33**	**L.H. Operating Arm Complete**	12748–6
103808	**34**	**R.H. Operating Arm Complete**	12748–6
167044	**35**	**Counterweight**	9672–192
	36	**Screw** with Nut Lock Ref. 37 and Nut Ref. 38	12471–
176618	**36a**	**Screw Only,** for Ref. 36	8098–1157
168115	**37**	**Nut Lock**	8486–405
176619	**38**	**Nut**	8109–70
	39	**Machine Screw,** No. 14-24x$\frac{7}{8}$" Fil. Hd. S. (Tin Pl.)	
	40	**Machine Screw,** No. 14-24x$\frac{1}{2}$" Fil. Hd. S. (Tin Pl.)	
	41	**Machine Screw,** No. 14-24x$\frac{5}{8}$" Fil. Hd. S. (Tin Pl.)	
37409	**42**	**Dowel,** .101"x$\frac{11}{16}$"	8097–336

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Operating Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
57496	**43**	**Dowel,** .101″x⅜″	8097–872
	44	**Machine Screw,** No. 10-30x½″ Fil. Hd. Br. (N. Pl.)	
157854	**45**	**Pivot Screw**	8378–353
26545	**46**	**Nut**	8109–181
141684	**47**	**Pivot Screw**	8378–345
157891	**48**	**Nut Lock**	8486–368
103766	**49**	**Front Contact Complete**	8094–2375
103764	**50**	**Back Contact Complete**	8094–2374
103783	**51**	**Connector Complete**	8064–849
134516	**52**	**Nut Lock**	8486–368
164349	**53**	**Nut Lock**	8486–368
131239	**54**	**Screw** (For Coil Lead Terminals)	8098–845
103718	**55**	**Clip**	8735–881
410560	**56**	**Carborundum Connector**	410561
	57	**Post** with Nut Ref. 46 and two Nut Locks Ref. 58	12471–
193691	**57a**	**Post Only,** for Ref. 57	8094–961
211701	**58**	**Nut Lock**	8486–197
	59	**Machine Screw,** No. 8-36x½″ Flat Hd. Br. (N.P.)	
103708	**60**	**Gasket**	8078–1662
103707	**61**	**Glass Case**	8163–319
103800	**62**	**Glass Cover Support Complete**	11893–853
103798	**63**	**Supporting Plate**	9999–1405
	64	**Machine Screw,** No. 10-30x⅝″ Flat Hd. S. (Tin Pl.)	
103753	**65**	**Locking Plate**	11893–851

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Operating Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
48215	**66**	**Screw**	8098–867
103722	**67**	**Locking Strap Complete**	11893–848
103811	**68**	**Screw**	8098–1436
103775	**69**	**Supporting Rack Complete**	C–16672–3
	70	**Machine Screw,** No. 14-24x$\frac{7}{16}$″ Flat Hd. Br. (N.P.)	
103813	**71**	**Name Plate**	8225–518
	72	**Screw,** No. 2x$\frac{5}{16}$″ (Tin Pl.)	
105845	**73**	**Permanent Magnet Clip**	8735–902
169192	**74**	**Washer** (.002″ thick)	7828–368
169193	**74a**	**Washer** (.005″ thick)	7828–368
169674	**74b**	**Washer** (.010″ thick)	7828–368
178520	**75**	**Insulation**	8750–2526
210711	**76**	**Pin**	8097–568
104302	**77**	**Locking Bar**	12538–199
29103	**78**	**Nut**	8109–194
29114	**79**	**Nut Lock**	8486–108
410430	**80**	**Green Roundel**	410430–1
413675	**80a**	**Yellow Roundel**	410430–1
410431	**80b**	**Red Roundel**	410430–1
413888	**80c**	**Blank Roundel**	410430–1
413738	**80d**	**Purple and Red Roundel** (Purple Strip ¼″ wide)	410430–2
413757	**80e**	**Purple and Red Roundel** (Purple Strip ⅜″ wide)	410430–2
410436	**80f**	**Purple Roundel**	410430–1

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Operating Units

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
62977	**81**	**Screw** (Used on all Terminals except the two for coil leads)	8098–845
	82	**Machine Screw,** No. 6-40x½" Fil. Hd. Br. (N.P.)	
	83	**Machine Screw,** No. 6-40x⅜" Flat Hd. Br. (N.P.)	
152702	**84**	**Seal** with 3" of Seal Wire	8988–33
103780	**85**	**Coil,** 250-Ohms	8133–510
210709	**85a**	**Coil,** 500-Ohms	8133–510
231921	**86**	**Handle**	8311–130

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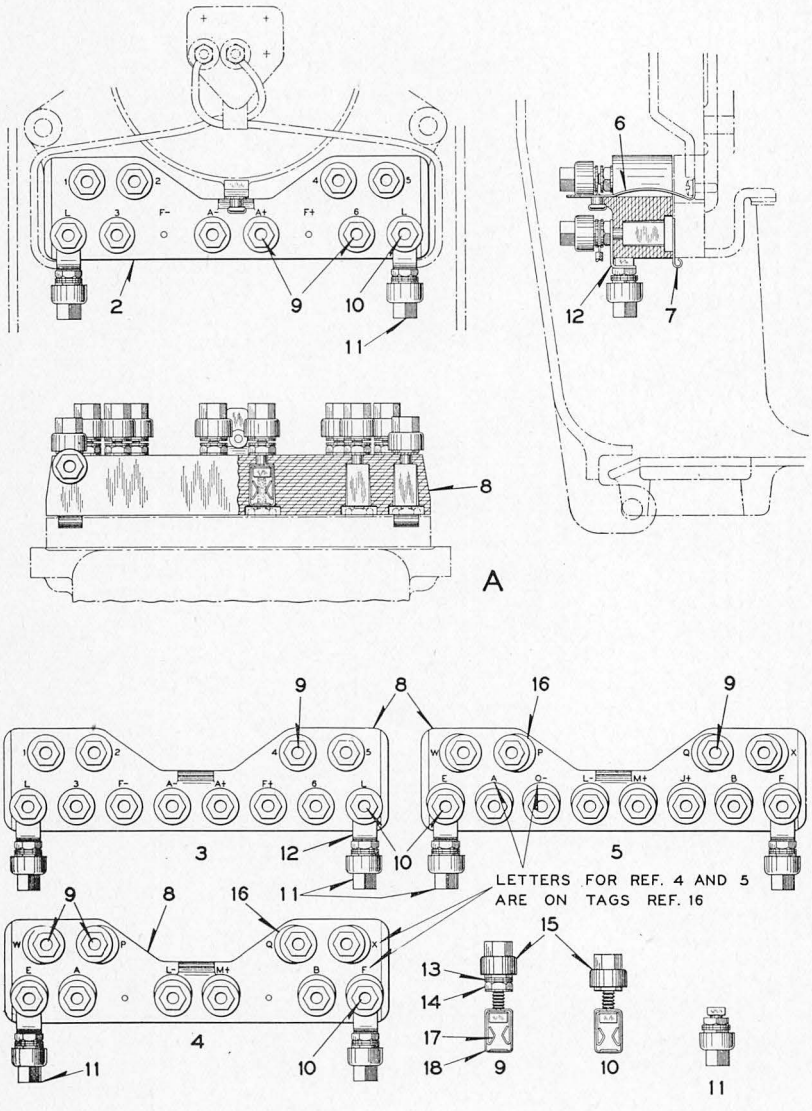
File Plates in Proper Sequence
in Loose Leaf Cover



Plug Coupler for Color Light Searchlight Signals

Plug Coupler for Color Light Searchlight Signals

(Styles "H" and "H-2")

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
213268	A	**Material Necessary for Adding Plug Coupler to Existing Searchlight Signal Units Having Permanent Magnets** (Inc. 1-2, 1-6 and 2-7) (Contact Terminals designated by numbers)	C–9158–9
213318	Aa	**Material Necessary for Adding Plug Coupler to Existing Searchlight Signal Units Having Field Coils** (Inc. 1-3, 1-6 and 2-7) (Contact Terminals designated by numbers)	C–9158–9
213319	Ab	**Material Necessary for Adding Plug Coupler to Existing Searchlight Signal Units Having Permanent Magnets** (Inc. 1-4, 1-6 and 2-7) (Contact Terminals designated by letters)	C–9158–9
213320	Ac	**Material Necessary for Adding Plug Coupler to Existing Searchlight Signal Units Having Field Coils** (Inc. 1-5, 1-6 and 2-7) (Contact Terminals designated by letters)	C–9158–9
213282	2	**Plug Coupler Complete, Marked as Shown, for Searchlight Signal Units Having Permanent Magnets** (Inc. 1-8, 8-9, 2-10, 2-11 and 2-12)	C–9158–10
213316	3	**Plug Coupler Complete, Marked as Shown, for Searchlight Signal Units Having Field Coils** (Inc. 1-8, 10-9, 2-10, 2-11 and 2-12)	C–9158–10
213283	4	**Plug Coupler Complete, with Tags Marked as Shown, for Searchlight Signal Units Having Permanent Magnets** (Inc. 1-8, 8-9, 2-10, 2-11, 2-12 and 10-16, marked A, B, E, F, L—, M+, P, Q, W, X)	C–9158–10
213317	5	**Plug Coupler Complete, with Tags Marked as Shown, for Searchlight Signal Units Having Field Coils** (Inc. 1-8, 10-9, 2-10, 2-11, 2-12 and 12-16, marked A, B, E, F, J+, L—, M+, O—, P, Q, W, X)	C–9158–10
213263	6	**Retaining Spring Complete**	8735–917
213266	7	**Wire Terminal**	8244–167
213211	8	**Plug Coupler Body** (Orders should specify whether for Signal Units having Permanent Magnets or Field Coils so proper holes can be drilled through)	12770–4

Plug Coupler for Color Light Searchlight Signals

(Styles "H" and "H-2")

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	9	**Terminal Post with Contact Springs, Receptacle, Nuts, Insulated Nut and Washers** (Inc. 1-9a, 3-13, 2-14, 1-15, 2-17 and 1-18)	12451–
141688	**9a**	**Terminal Post Only,** for Ref. 9	8094–1192
	10	**Terminal Post with Contact Springs, Receptacle, Insulated Nut and Nut** (Inc. 1-10a, 1-14, 1-15, 2-17 and 1-18)	12451–
118364	**10a**	**Terminal Post Only,** for Refs. 10 and 11	8094–1192
	11	**Terminal Post with Nuts and Washers** (Inc. 1-10a, 2-13, 2-14 and 1-15)	12451–
213267	**12**	**Terminal Connector**	8064–868
29102	**13**	**Washer**	7828–139
29103	**14**	**Nut**	8109–194
105713	**15**	**Insulated Nut**	12770–1
142777	**16**	**Tag** (Orders should specify marking desired)	8988–75
213265	**17**	**Contact Spring**	8385–2631
213371	**18**	**Receptacle**	11893–883

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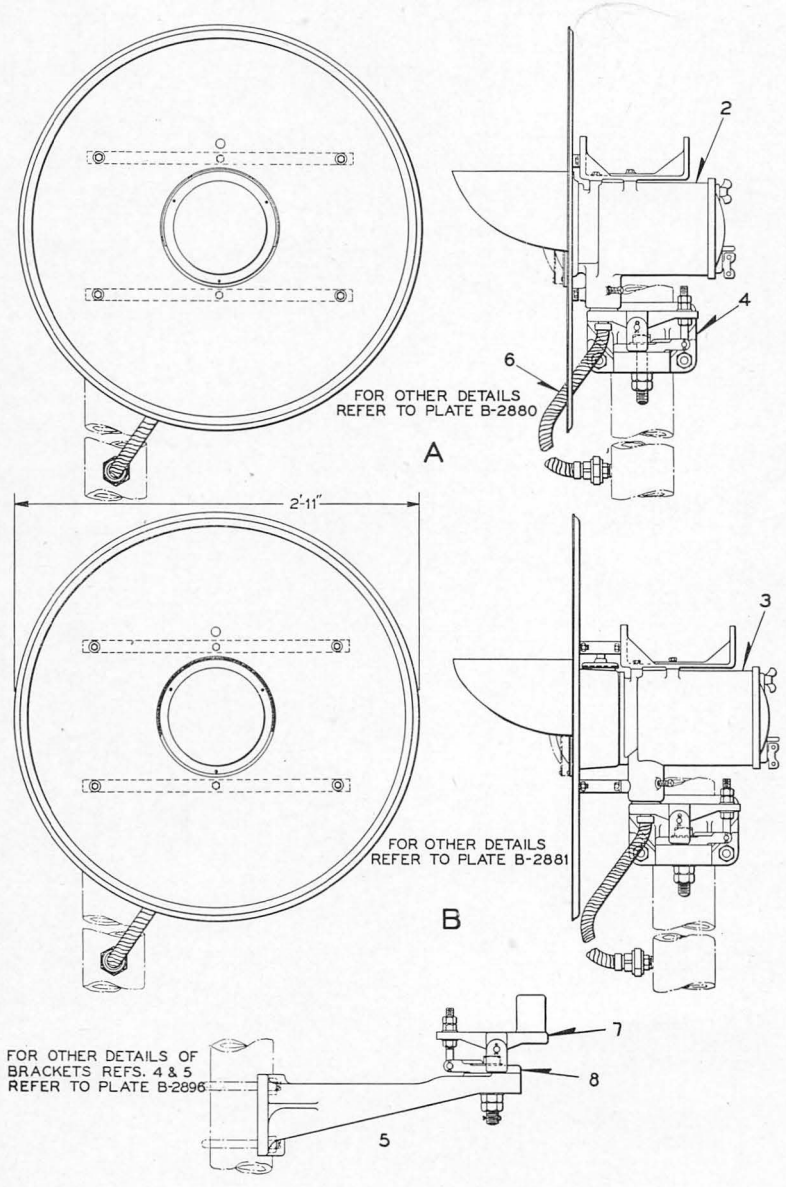
PLATE B-2891

UNION SWITCH & SIGNAL CO.



STYLE "H" AND "H-2" INOPERATIVE SIGNALS

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCH LIGHT SIGNAL

DETAIL PARTS

STYLE "H" AND "H-2" INOPERATIVE SIGNALS

These signal units to be used for fixed signals or markers where signal indications exactly the same as the operating signals are desired. Standard operating units cannot be used in these signals.

Unless otherwise specified unit will be furnished with red roundel.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	*A	**Style "H" Inoperative Searchlight Signal Complete** with Bracket Ref. 4 for side of Mast application, Conduit Ref. 6 and U-Bolts for 5″ Pipe Mast.....	B–12609–
	*Aa	**Style "H" Inoperative Searchlight Signal Complete** with Bracket Ref. 5 for front or side of Mast application, Conduit Ref. 6 and U-Bolts for 5″ Pipe Mast.....	B–12609–
182605	*B	**Style "H-2" Inoperative Searchlight Signal Complete** with Bracket Ref. 4 for side of Mast application, Conduit Ref. 6 and U-Bolts for 5″ Pipe Mast.....	B–12609–66
182604	*Ba	**Style "H-2" Inoperative Searchlight Signal Complete** with Bracket Ref. 5 for front or side of Mast application, Conduit Ref. 6 and U-Bolts for 5″ Pipe Mast.....	B–12609–65
		***Note**—Unless otherwise stated Inoperative Signal Units will be furnished with U-Bolts for Application to 5″ Pipe Mast.	
	2	**Style "H" Inoperative Searchlight Signal Unit Complete** (With red roundel) (For details refer to Plate B-2893).....	C–9104–
182595	3	**Style "H-2" Inoperative Searchlight Signal Unit Complete** (With red roundel) (For details refer to Plate B-2893).....	C–9104–10
182422	4	**Supporting Bracket Complete** for side of Mast application (For other details refer to Ref. C, Plate B-2896) (Without U-Bolts).....	C–9105–22
182423	5	**Supporting Bracket Complete** for front or side of Mast application (For other details refer to Ref. A, Plate B-2896) (Without U-Bolts).....	C–9105–22

PLATE B-2891

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCH LIGHT SIGNAL
(Continued)

DETAIL PARTS

STYLE "H" AND "H-2" INOPERATIVE SIGNALS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	6	**Conduit,** $\frac{3}{4}$″ Galv. D.S. Flex. $\frac{13}{16}$″ I.D. x 1.148″ O.D. 2′ 6″ Long with box connector and Union.	
182324	7	**Supporting Bracket** for Refs. 4 and 5.....	C–9105–21
182325	8	**Adjusting Bracket** for Refs. 4 and 5.....	C–9105–22

UNION SWITCH & SIGNAL CO.

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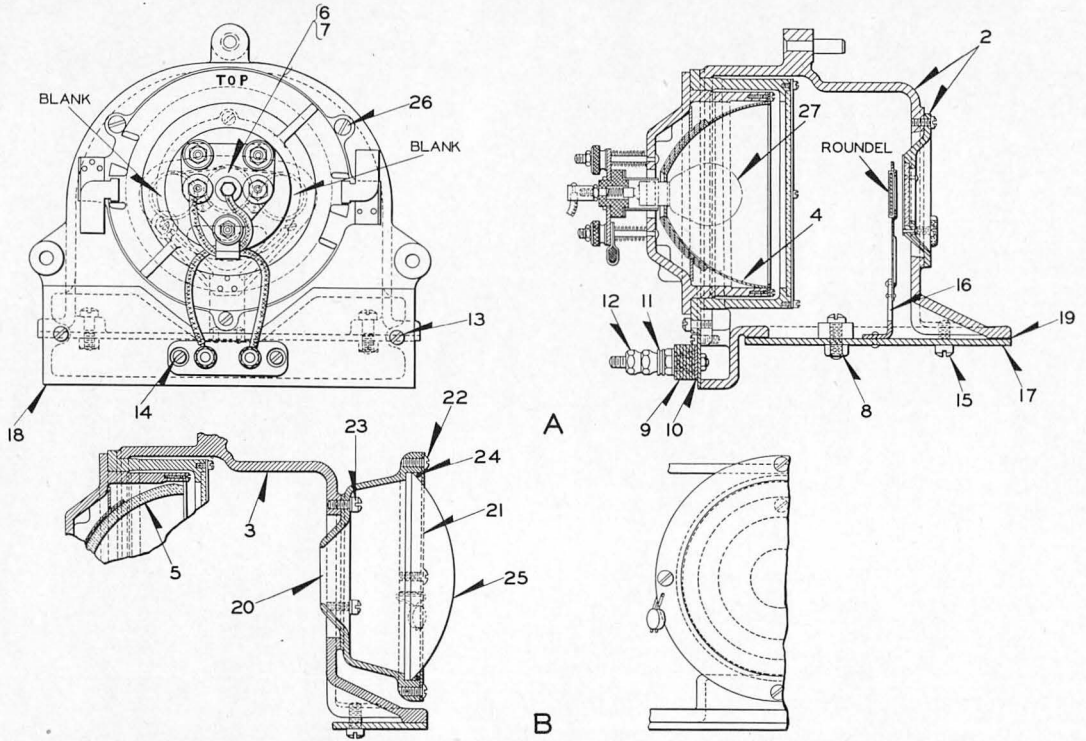

STYLES "H" AND "H-2" LAMP UNITS FOR INOPERATIVE SIGNAL

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCH LIGHT SIGNAL

DETAIL PARTS

STYLES "H" AND "H-2" LAMP UNITS FOR INOPERATIVE SIGNAL

These units to be used in standard signal cases for fixed signals or marker lights where a signal indication exactly the same as the operating signal is desired. This type of inoperative unit can later be replaced with a standard operating unit if desired.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
159064	**A**	**Style "H" Lamp Unit Complete** (with red roundel) for Inoperative Signal (Without Lamp Ref. 27)...	C–9158–8
169545	**B**	**Style "H-2" Lamp Unit Complete** (with red roundel) and Plano-Convex Lens, for Inoperative Signal (without Lamp Ref. 27).....	C–9158–8
175970	**Ba**	**Style "H-2" Lamp Unit Complete** (with yellow roundel) and Plano-Convex Lens, for Inoperative Signal (without Lamp Ref. 27).....	C–9158–8
144011	**2**	**Upper Case Complete** with roundel ring and stud for Ref. A.....	C–9158–4
144010	**2a**	**Upper Case only,** for Ref. A.....	C–9158–4
169547	**3**	**Upper Case Complete** with Stud Ref. 3a for Refs. B and Ba.....	C–9158–4
143663	**3a**	**Stud** for Ref. 3.....	8114–375
173693	**4**	**Reflector Complete** with lamp socket and retaining ring for Ref. A (For details refer to Plate B-2885)..	C–9158–5
171634	**5**	**Reflector Complete** with lamp socket and retaining ring for Refs. B and Ba (For details refer to Plate B-2888).....	C–9158–5
410431	**6**	**Roundel (Red)** for Refs. A and B.....	410430
413675	**7**	**Roundel (Yellow)** for Ref. Ba.....	410430
	8	**Machine Screw, 1/4"-20x3/4"** Fil. Hd. S. with Nut Ref. 8a	
74972	**8a**	**Nut** for Ref. 8.....	8265–133
411175	**9**	**Terminal Block** with Terminal Posts (Without Nuts and Washers).....	411175

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCH LIGHT SIGNAL
(Continued)

DETAIL PARTS

STYLES "H" AND "H-2" LAMP UNITS FOR INOPERATIVE SIGNAL

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410539	**10**	**Insulation**	410539
29102	**11**	**Washer**	7828–139
29101	**12**	**Nut**	8109–193
	13	**Machine Screw, No. 10-30x3/8″** Fil. Hd. S. (Cad. Pl.).	
	14	**Machine Screw, No. 10-30x1/2″** Fil. Hd. S. (Cad. Pl.) with Nut Ref. 14a.	
73494	**14a**	**Nut** for Ref. 14	8265–126
	15	**Machine Screw, 1/4″-20x1/2″** Fil. Hd. S. (Cad. Pl.).	
158980	**16**	**Spectacle** (without Roundel)	C–9158–7
159017	**17**	**Bottom Plate**	9999–680
159016	**18**	**Side Plate**	9999–679
141654	**19**	**Gasket,** used between Ref. 17 and Upper Case	8078–1434
167997	**20**	**Adapter**	C–9105–16
169544	**21**	**Lens Ring**	7436–141
	22	**Machine Screw, No. 10-30x1/4″** Rd. Hd. S. (Cad. Pl.).	
	23	**Machine Screw, No. 10-30x1/2″** Fil. Hd. S. with 3/16″ Plain S. Lock Washer (1/16″x1/16″) Cad. Pl.	
	24	**Cork Gasket** (5/32″ dia. x 14″ long).	
169298	**25**	**4 1/2″ Diam. Clear Inner Lens**	B–8276–62
	26	**Machine Screw, No. 10-30x1/2″** Fil. Hd. S. (Cad. Pl.).	
	27	**Lamp** (When ordering refer to Plate B-2885)	B–12409–

UNION SWITCH & SIGNAL CO.

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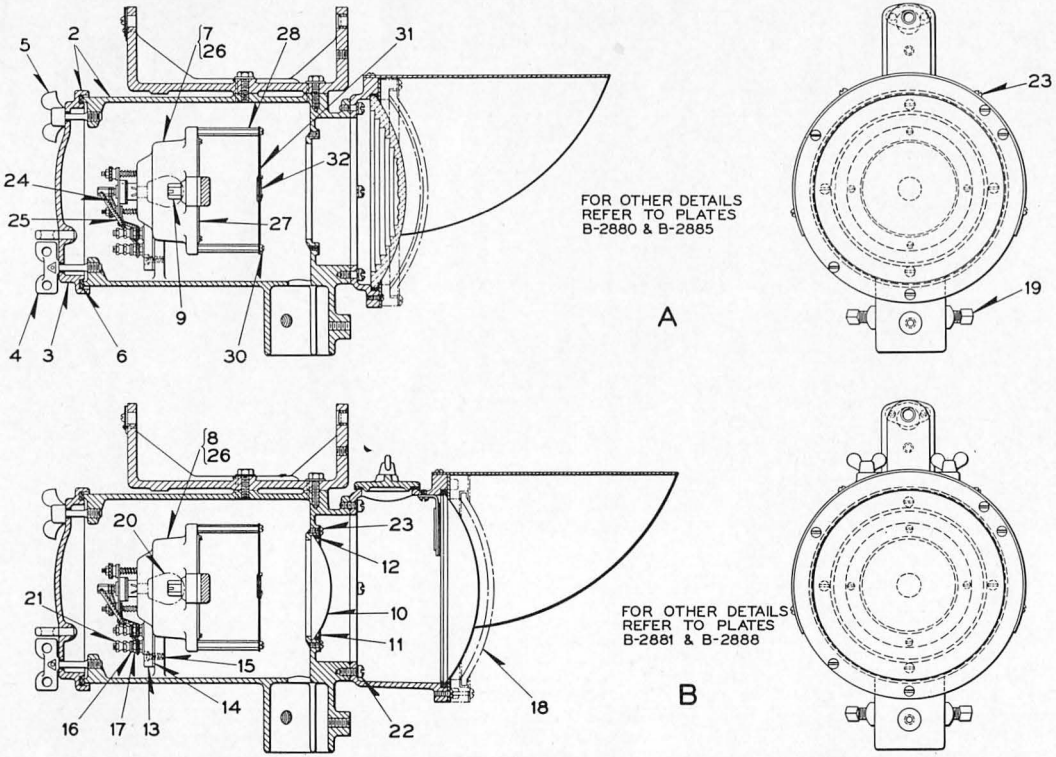

STYLE "H" AND "H-2" INOPERATIVE SIGNAL UNITS
WITH 8 3/8" LENS

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCHLIGHT SIGNAL
DETAIL PARTS
STYLE "H" AND "H-2" INOPERATIVE SIGNAL UNITS WITH 8⅜" LENS

These signal units to be used for fixed signals or markers where signal indications exactly the same as the operating signals are desired. Standard operating units cannot be used in these signals.

For complete assemblies of Inoperative Searchlight Signal Units refer to Plate B-2891.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**Style "H" Inoperative Searchlight Signal Unit,** with Red Roundel (without Lamp Ref. 20)	C–9104–
182595	B	**Style "H-2" Inoperative Searchlight Signal Unit,** with Red Roundel (without Lamp Ref. 20)	C–9104–10
	2	**Case and Door Complete** with Gasket and Wing Nuts	C–9105–20
182273	2a	**Case only,** for Ref. 2	C–9105–20
	3	**Door Complete** with Staple and Gasket Ref. 6	C–8964–34
132539	4	**Wing Nut**	8331–69
132541	5	**Wing Nut**	8331–70
124383	6	**Gasket,** for Ref. 3	8078–717
182659	7	**Reflector and Lamp Socket Complete** for Style "H" Signal (For other details refer to Plate B-2885)	C–9105–23
182350	8	**Reflector and Lamp Socket Complete** for Style "H-2" Signal (For other details refer to Plates B-2885 and B-2888)	C–9105–23
182477	9	**Screw,** for attaching Refs. 7 and 8 to Case	8190–234
169298	10	**4½" Diam. Clear Inner Lens** for Style "H-2" Signal.	B–8276–62
169544	11	**Lens Ring**	7436–141
	12	**Cork Gasket,** $\frac{5}{32}$" Diam. x 14" Long.	
	13	**Terminal Block Complete,** with Terminal Posts, Nuts and Washers (Inc. 1-13a, 2-15, 4-21, 8-16 and 2-17)	411175
411175	13a	**Terminal Block Complete,** with Terminal Posts, Nuts and Washers for Ref. 13 (Inc. 1-13b, 2-13c, 2-17 and 2-16)	411175

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCHLIGHT SIGNAL (Continued)

DETAIL PARTS

STYLE "H" AND "H-2" INOPERATIVE SIGNAL UNITS WITH 8 3/8" LENS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410289	**13b**	**Terminal Block only.**	
410594	**13c**	**Terminal Post only.**	
410539	**14**	**Insulation,** used under Ref. 13	410559
	15	**Machine Screw, No. 10-30x5/8"** Rd. Hd. Br. (N.P.) for fastening Ref. 13 to Case.	
29102	**16**	**Washer**	7828–139
29103	**17**	**Nut**	8109–194
90897	**18**	**Deflecting Prism Cover Glass Complete** (10° Spread one direction) used with 8 3/8" Lens	C–8901–8
90898	**18a**	**Deflecting Prism Cover Glass Complete** (20° Spread one direction) used with 8 3/8" Lens	C–8901–8
174897	**18b**	**Spreadlite Prism Cover Glass Complete** (8° Spread in each direction) used with 8 3/8" Lens	C–9105–12
170245	**18c**	**Spreadlite Prism Cover Glass Complete** (15° Spread in each direction) used with 8 3/8" Lens	C–9105–12
	19	**Set Screw, 1/2"x1"** Cup Point S.	
	20	**Lamp,** when ordering refer to Plate B-2885	B–12409–
29101	**21**	**Nut**	8109–193
	22	**Machine Screw, 5/16"-18x3/4"** Fil. Hd. S. (Cad. Pl.) with 5/16" Pl. S. Lock Washer (3/32"x1/8") (Cad. Pl.).	
	23	**Machine Screw, No. 10-30x1/4"** Rd. Hd. S. (Cad. Pl.).	
145602	**24**	**Lead Complete** with two Eyelets, 11" long	B–9990–13
158974	**25**	**Lead Complete** with one connector and one Eyelet, 11" long	8064–678

Color Light Searchlight Signal

(Continued)

Detail Parts

Style "H" and "H-2" Inoperative Signal Units with 8⅜" Lens

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
182323	**26**	**Case** for Reflector	C–9105–21
149095	**27**	**Ring**	7436–146
182394	**28**	**Stud**	8114–835
169703	**29**	**Gasket** for Reflector (Not shown)	8078–1502
	30	**Machine Screw, No. 10-30x⅜"** Fil. Hd. Br. (N.P.).	
182399	**31**	**Roundel Support Complete** with Red Roundel	11893–676
410431	**32**	**Red Roundel only**	410430
413675	**32a**	**Yellow Roundel only**	410430

Remove Staple Before Filing Plates in Loose Leaf Cover

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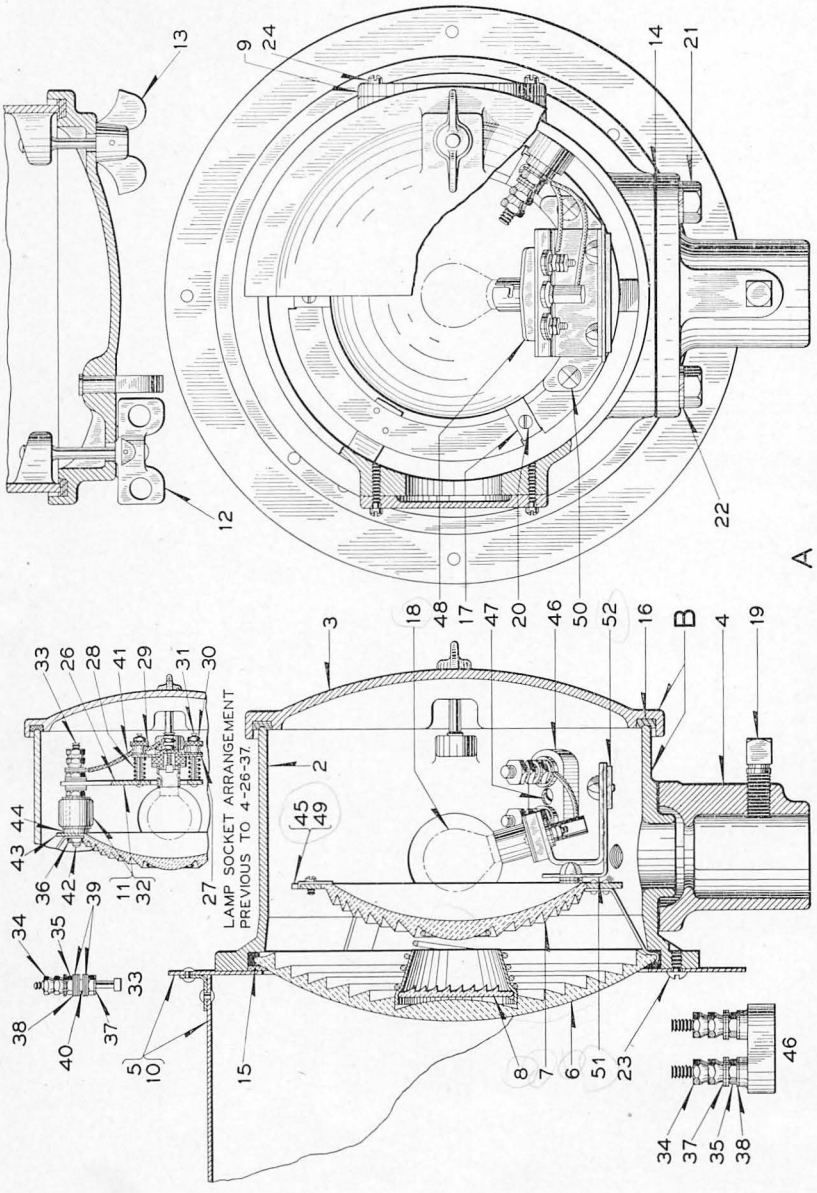
This Plate Supersedes Plate B-2894 dated 5-32



Style "HC-33" Marker Light Unit

Color Light Searchlight Signal

Detail Parts

Style "HC-33" Marker Light Unit

This unit can be used for a marker light with Style "H" Signals where the same indication as operating signal is not necessary.
This unit will not give a satisfactory daylight indication with the low wattage lamp ordinarily used in the Style "H-2" Signal.
For Mounting Brackets see Reference B, Plate B-2896.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "HC-33" Marker Light Unit with Hood and 12″ Diam. Lens Ring Ref. 5 for Single Contact Candelabra Bayonet Base Lamp (without Lamp Bulb).

Piece	Ref.	Back Lens		Remarks	Drawing Reference
		Color	Ref.		
149921	**A**	Lunar White	7	Frosted Back Lens	C–8965–33
177320	**Aa**	Red	7b		C–8965–33
	Af	Yellow	7a		C–8965–33
	Ag	Green	7c		C–8965–33
	Ah	Clear	7d		C–8965–33
215576	**Aj**	Lunar White	7e		C–8965–33

Style "HC-33" Marker Light Unit with Hood and 20″ Diam. Background Ref. 5a for Single Contact Candelabra Bayonet Base Lamp (without Lamp Bulb).

Piece	Ref.	Back Lens		Remarks	Drawing Reference
		Color	Ref.		
	Ak	Lunar White	7e		C–8965–33
	Am	Red	7b		C–8965–33
212730	**An**	Yellow	7a		C–8965–33
	Ap	Green	7c		C–8965–33
	Aq	Clear	7d		C–8965–33

Color Light Searchlight Signal

Detail Parts

Style "HC-33" Marker Light Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "HC-33" Marker Light Unit with Hood and 2′-11″ Diam. Background Ref. 5b for Single Contact Candelabra Bayonet Base Lamp (without Lamp Bulb).

Piece	Ref.	Back Lens		Remarks	Drawing Reference
		Color	Ref.		
	Ar	Lunar White	7e		C–8965–33
	As	Red	7b		C–8965–33
	At	Yellow	7a		C–8965–33
	Au	Green	7c		C–8965–33
	Av	Clear	7d		C–8965–33

Style "HC-33" Marker Light Unit for Single Contact Candelabra Bayonet Base Lamp, without Hood, Background and Lamp Bulb (Using Lens Ring Ref. 10).

Piece	Ref.	Back Lens		Remarks	Drawing Reference
		Color	Ref.		
	Aw	Lunar White	7e		C–8965–33
151059	**Ax**	Red	7b		C–8965–33
152306	**Ay**	Yellow	7a		C–8965–33
183005	**Az**	Green	7c		C–8965–33
183004	**Aaa**	Clear	7d		C–8965–33

Piece	Ref.	Description	Drawing Reference
149920	**B**	**Case and Door** with Gasket and Wing Nuts (Inc. 1-2, 1-3, 1-12 and 1-13)	C–8965–33
149917	**2**	**Case Only**	C–8964–33
189939	**3**	**Door** with Staple and Gasket Ref. 16	C–8964–34

Color Light Searchlight Signal

Detail Parts

Style "HC-33" Marker Light Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
149886	**4**	**Lamp Unit Support**	C–8964–68
149987	**5**	**Hood and 12″ Diam. Lens Ring** for Refs. A to Aj inclusive	C–8964–71
154813	**5a**	**Hood and 20″ Diam. Background** for Refs. Ak to Aq inclusive	C–8964–71
151058	**5b**	**Hood and 2′-11″ Diam. Background** for Refs. Ar to Av inclusive	C–8964–71
71186	**6**	**Lens, 8⅜″ Diam. (Clear)**	B–8276–22
150837	**7**	**Lens, 5½″ Diam. (Lunar White Frosted)** for Ref. A	B–8276–23
68162	**7a**	**Lens, 5½″ Diam. (Yellow)** for Refs. Af, An, At and Ay	B–8276–23
71329	**7b**	**Lens, 5½″ Diam. (Red)** for Refs. Aa, Am, As and Ax	B–8276–23
71331	**7c**	**Lens, 5½″ Diam. (Green)** for Refs. Ag, Ap, Au and Az	B–8276–23
71330	**7d**	**Lens, 5½″ Diam. (Clear)** for Refs. Ah, Aq, Av and Aaa	B–8276–23
133171	**7e**	**Lens, 5½″ Diam. (Lunar White)** for Refs. Aj, Ak, Ar and Aw	B–8276–23
130694	**8**	**Deflecting Unit** for near indication (25° Spread)	C–8901–63
125749	**9**	**Cover**	C–8964–22
151774	**10**	**Lens Ring** for Refs. Aw to Aaa inclusive	7436–106
149888	**11**	**Lamp Socket Complete (Single Contact)** with Terminal Block, Lens Support and Lamp Socket (Inc. 1-11a, 2-42, 1-43 and 2-44)	C–8964–68
149887	**11a**	**Lamp Socket Complete (Single Contact)** without Lens Support (Inc. 1-26, 1-27, 3-28, 3-29, 3-30, 3-31, 1-32, 2-40 and 2-41)	C–8964–68
132539	**12**	**Wing Nut**	8331–69

Color Light Searchlight Signal

Detail Parts

Style "HC-33" Marker Light Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
132541	**13**	**Wing Nut**	8331–70
135185	**14**	**Gasket**	8078–1420
131706	**15**	**Gasket**	8078–1367
124383	**16**	**Gasket**	8078–717
76735	**17**	**Clip**	11893–31
	18	**Lamp Bulb** (When ordering refer to Plate B-2885)	B–12409–
	19	**Set Screw,** ½″x1″ Cup Point Iron (Cad. Pl.)	
	20	**Machine Screw,** No. 10-30x¼″ Fil. Hd. Brass (N.P.)	
	21	**Tap Bolt,** ½″x1¼″ Hex. Hd. (Cad. Pl. double thickness)	
	22	**Lock Washer,** ½″ Plain S. ($\frac{7}{32}$″x$\frac{5}{32}$″) (Cad. Pl. double thickness)	
	23	**Machine Screw,** No. 14-24x⅜″ Rd. Hd. Brass	
	24	**Machine Screw,** No. 10-30x⅝″ Fil. Hd. Brass	
149885	**26**	**Lamp Support**	11893–417
148204	**27**	**Lamp Socket**	12415–12
149104	**28**	**Spring**	8124–218
35790	**29**	**Nut**	8109–239
1515	**30**	**Nut**	8109–23
149105	**31**	**Stud**	8114–361
	32	**Terminal Block with Terminal Posts, Nuts and Washers** (Inc. 1-32a, 2-33, 4-34, 4-35, 6-37, 4-38 and 16-39	9968–628
114147	**32a**	**Terminal Block Only**	9968–628
113978	**33**	**Terminal Post**	8094–1192
29101	**34**	**Nut**	8109–193

Color Light Searchlight Signal

Detail Parts

Style "HC-33" Marker Light Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
29103	**35**	**Nut**	8109–194
127260	**36**	**Nut**	8109–194
29102	**37**	**Washer**	7828–139
29104	**38**	**Washer**	7828–138
9468	**39**	**Ins. Washer**	8078–76
18470	**40**	**Bushing**	B–10270–1
138797	**41**	**Lead**	B–9990–11
	42	**Machine Screw,** No. 14-24x1″ Fil. Hd. S. (Cad. Pl.) with Nut Ref. 36 and ¼″ Pl. S. Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″)	
132513	**43**	**Lens Support**	C–8964–32
122842	**44**	**Gasket**	8078–880
207781	**45**	**Lamp Socket and Lens Support Complete** (Inc. 1-48, 1-49, 4-50, 1-51 and 1-52)	C–8964–115
	46	**Terminal Block Complete** (Inc. 1-46a, 4-34, 2-35, 4-37 and 2-38)	9968–
181832	**46a**	**Terminal Block** with Posts only	9968–1100
	47	**Machine Screw,** No. 10-30x½″ Fil. Hd. Br. (N.P.)	
207780	**48**	**Lamp Socket Complete**	12415–49
207779	**49**	**Lens Support with Straps**	C–8964–115
	50	**Machine Screw,** No. 10-30x⅜″ Fil. Hd. Br. (N.P.) with Washer Ref. 50a and Crowner Ref. 50b	
73493	**50a**	**Washer**	7826–78
	50b	**No. 10 Crowner**	
207783	**51**	**Lamp Support**	11893–812
111757	**52**	**Locking Plate**	9999–119

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PLATE B-2895

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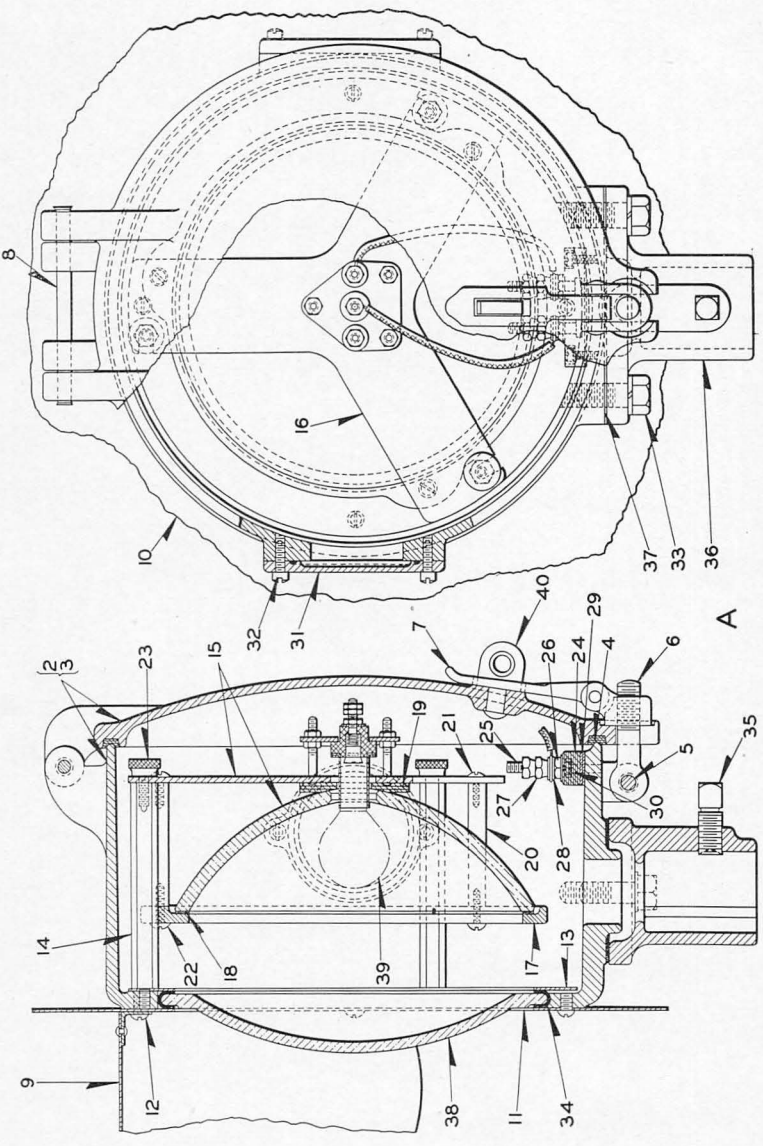

STYLE "HC-41" MARKER LIGHT UNIT

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCHLIGHT SIGNAL

DETAIL PARTS

STYLE "HC-41" MARKER LIGHT UNIT

This unit can be used for a marker light with either Style "H" or "H-2" signal where phantom indication is not objectionable and where exactly the same indication as the operating signal is not necessary.

For Mounting Brackets see Reference B, Plate B-2896.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**Lamp Unit Complete** with Hood, 20″ Diam. Background, Glass Reflector and Red Lens (Without Lamp)	C–8965–43
	Aa	**Lamp Unit Complete** with Hood, 20″ Diam. Background, Glass Reflector, and Lunar White Lens (Without Lamp)	C–8965–43
177618	Ab	**Lamp Unit Complete** with Hood, Glass Reflector and Red Lens (Without background and lamp)	C–8965–43
175971	Ac	**Lamp Unit Complete** with Hood, Glass Reflector and Lunar White Lens (Without background and lamp)	C–8965–43
146166	2	**Case Complete** with Cover, Pin, Eyebolt, Hasp and Hinge Pin (Inc. 1-2a, 1-3, 1-4, 1-5, 1-6, 1-7 and 1-8) for Refs. A, Aa, Ab and Ac	C–8965–31
145930	2a	**Case only,** for Ref. 2	C–8964–53
145931	3	**Cover only** with Staple, for Ref. 2	C–8964–54
146038	4	**Gasket,** for Ref. 3	8078–717
37075	5	**Pin**	B–10207–1
50126	6	**Eyebolt**	8034–64
72832	7	**Hasp**	8299–66
145984	8	**Hinge Pin**	B–10206–1
145981	9	**Hood**	C–8964–57
	10	**Background** (20″ Diam.)	C–8964–
145962	11	**Lens Ring**	7436–136

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCHLIGHT SIGNAL
(Continued)

DETAIL PARTS

STYLE "HC-41" MARKER LIGHT UNIT

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	12	**Machine Screw, No. 14-24x⅜″** Rd. Hd. S. (Cad. Pl.).	
49517	13	**Screw Ring**	7436–80
159508	14	**Stud**	8115–113
159476	15	**Reflector Complete**	C–8964–80
149119	15a	**Reflector only,** for Ref. 15	B–12652–8
146028	16	**Support**	C–8964–55
159475	17	**Reflector Ring**	7632–234
151101	18	**Gasket,** used between Reflector and Ring	8078–121
159534	19	**Felt Washer**	8078–1042
159509	20	**Separator,** used between Refs. 16 and 17	8072–679
	21	**Machine Screw, No. 10-30x½″** Rd. Hd. S. for fastening Ref. 16 to Ref. 20.	
	22	**Machine Screw No. 10-30x¾″** Rd. Hd. S. (Cad. Pl.) for fastening Ref. 17 to Ref. 20.	
145957	23	**Screw**	8331–71
	24	**Terminal Board Complete** with two Terminal Posts, Nuts and Washers (Inc. 2-25)	411175
	25	**Terminal Post Complete** with Nuts and Washers (Inc. 1-25a, 1-26, 2-27 and 3-28)	12451–
410594	25a	**Terminal Post only,** for Ref. 25.	
29103	26	**Nut**	8109–194
29101	27	**Nut**	8109–193
29102	28	**Washer**	7828–139

Color Light Searchlight Signal

Detail Parts

Style "HC-41" Marker Light Unit

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410539	**29**	**Insulation,** used under Ref. 24.	
	30	**Machine Screw,** No.10-30x½" Fil. Hd. Br. (N. P.) with Washer Ref. 30a, for fastening Ref. 24 to Case	
56349	**30a**	**Washer only,** for Ref. 30	7826–180
125749	**31**	**Cover**	C–8964–22
	32	**Machine Screw,** No. 10-30x⅝" Fil. Hd. S. (Cad. Pl.) for fastening Ref. 31 to Case.	
	33	**Tap Bolt,** ½"x1¼" Hex. Hd. with ½" Plain S. Lock Washer (3/16"x3/32") (Cad. Pl.).	
	34	**Lamp Wick,** 1/16"x1"x2' 3".	
	35	**Set Screw,** ½"x1" Cup Point I.	
149886	**36**	**Lamp Unit Support**	C–8964–68
135185	**37**	**Gasket,** used between Ref. 36 and Case	8078–1420
	38	**Red Convex Lens** (8⅜" Diam.).	
	38a	**Lunar White Lens** (8⅜" Diam.).	
	39	**Lamp** (When ordering refer to Plate B-2885)	B–12409–
903	**40**	**Staple**	8191–1

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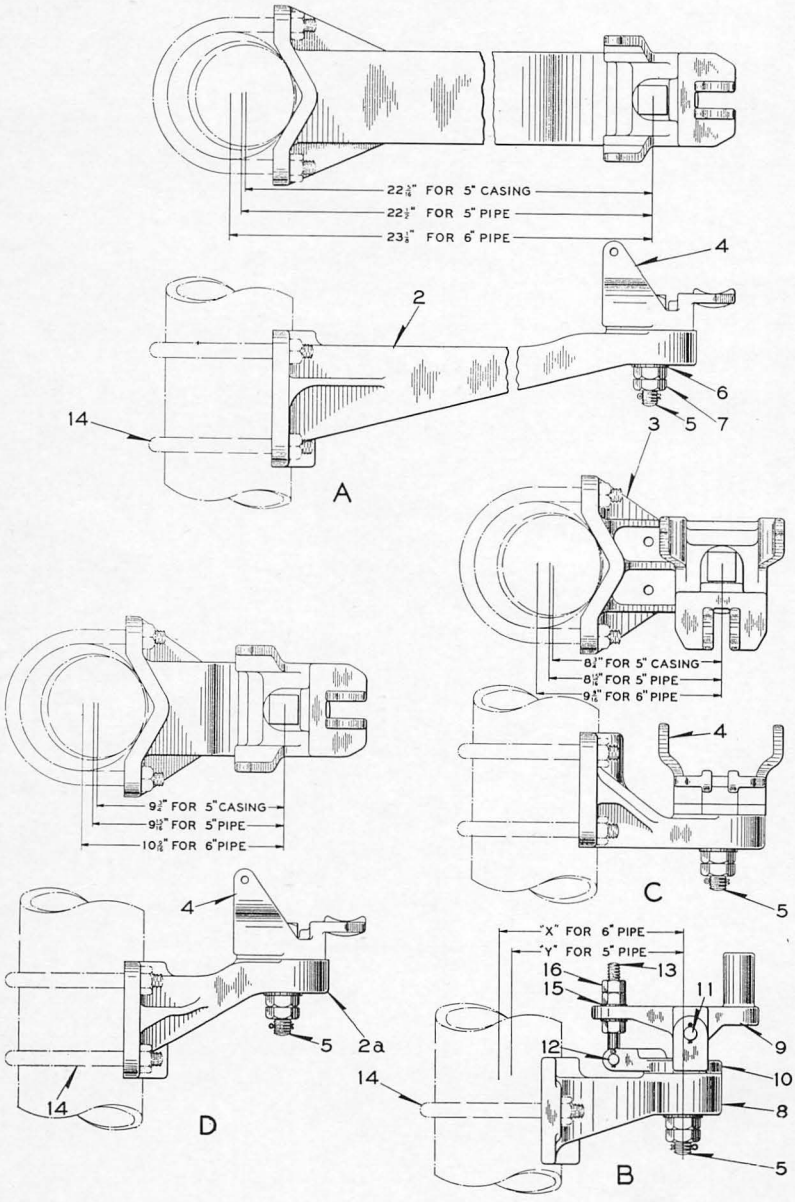

Mounting Brackets for Searchlight Signals and Marker Lights

Color Light Searchlight Signal

Detail Parts

Brackets for Attaching Searchlight Signal and Marker Light to Mast

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
194419	**A**	**Adjusting Bracket Complete** for Front or Side of Mast Application, for H, H-2 and H-5 Signals and for front top of mast mounting for H-5 Signals. With Bolt, Washer and Nuts (Without U-bolts)..	C–9105–9
149919	**B**	**Adjusting Bracket Complete** for attaching Marker Lights, Plates B-2894 and B-2895 to 5″ and 6″ Pipe Mast; with Pins, Eye Bolt, Bolts, Nuts and Washers (Without U-bolts) "X" dimension 9⅝″; "Y" dimension 9″.....	C–8964–65
148526	**Ba**	**Adjusting Bracket Complete** for attaching Marker Lights, Plates B-2894 and B-2895 to 5″ and 6″ Pipe Mast; with Pins, Eye Bolt, Bolts, Nuts and Washers (Without U-bolts) "X" dimension 15⅝″; "Y" dimension 15″.....	C–8964–65
144207	**C**	**Adjusting Bracket Complete** for Side of Mast Application for H and H-2 Signals. With Bolts, Washers and Nuts (Without U-bolts).....	C–9105–5
147517	**D**	**Adjusting Bracket Complete** for Front Top of Mast Application for H and H-2 Signals and Side of Mast Application for H-5 Signal. With Bolt, Washer and Nuts (Without U-bolts).....	C–9105–9
162983	**2**	**Adjusting Bracket Only,** for Ref. A.....	C–9105–15
147483	**2a**	**Adjusting Bracket Only,** for Ref. D.....	C–9105–7
147489	**3**	**Adjusting Bracket Only,** for Ref. C.....	C–9105–8
144205	**4**	**Supporting Bracket** for Refs. A, C and D.....	C–9105–3
81667	**5**	**Bolt,** 1″x5″ with ¼″x1½″ S. Cotter (Cad. Pl.), two Nuts Ref. 7 and Washer Ref. 6.....	8479–196
80821	**6**	**Washer**.....	7826–20
	7	**Hex. Jam Nut,** 1″ (Cad. Pl.)	
149918	**8**	**Supporting Arm** for Ref. B.....	C–8964–69
148494	**8a**	**Supporting Arm** for Ref. Ba.....	C–8964–64

Color Light Searchlight Signal

Detail Parts

Brackets for Attaching Searchlight Signal and Marker Light to Mast

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
125752	**9**	**Supporting Bracket** for Refs. B and Ba (¾″ Pipe Tap)	C–8964–25
148525	**10**	**Adjusting Bracket** for Refs. B and Ba	C–8964–65
16458	**11**	**Pin,** ⅝″x5¾″ with two $\frac{3}{16}$″x1⅛″ Cotters (Tin Pl.)	B–10216–1
24289	**12**	**Pin,** ½″x2⅜″ with two ⅛″x¾″ Cotters (Tin Pl.)	B–10215–1
125826	**13**	**Eye Bolt**	8034–66
43931	**14**	¾″ **U-bolt Complete** with ¾″ Hex. Nuts for 5″ Pipe	8782–66
44199	**14a**	¾″ **U-bolt Complete** with ¾″ Hex. Nuts for 6″ Pipe	8782–69
97657	**14b**	¾″ **U-bolt Complete** with ¾″ Hex. Nuts for 5″ Casing	8782–66
	15	**Plate Washer** (⅝″ Steel) Cad. Pl.	
	16	**Hex. Nut,** ⅝″-11 (Cad. Pl.)	

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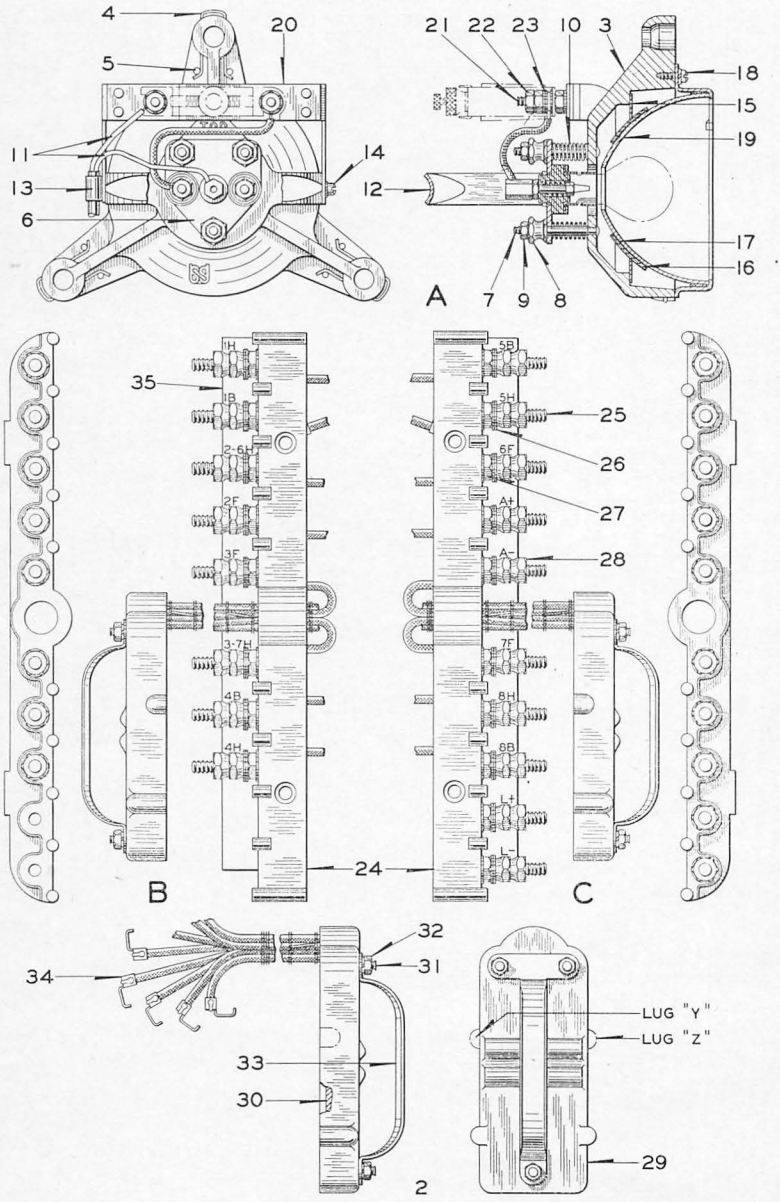

Reflector and Terminal Boards

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Reflector and Terminal Boards

Detail parts are shown for reflector assembly but complete reflector assembly should be returned to factory for repairs involving new reflector or socket adjustment.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
214525	**A**	**Reflector with Socket** and without Resistor. For Style "H-5" D.C. High and Dwarf Searchlight Signal	C–16671–5
	Aa	**Reflector with Socket and Resistor** (Orders should specify resistance desired) For Style "H-5" D.C. High and Dwarf Searchlight Signal	C–16671–5
103726	**B**	**L.H. Plug Coupler and Terminal Board** (Inc. 1-2, 1-24 and 8-25) (Does not include Terminal Marker Ref. 35)	C–16671–7
104430	**C**	**R.H. Plug Coupler and Terminal Board** (Inc. 1-2a, 1-24 and 10-25) (Does not include Terminal Marker Ref. 35)	C–16671–7
103725	**2**	**L.H. Plug Coupler with Leads** (With Lug "Y" and without Lug "Z")	C–16671–7
104429	**2a**	**R.H. Plug Coupler with Leads** (With Lug "Z" and without Lug "Y")	C–16671–7
102244	**3**	**Reflector Bracket**	C–16671–3
103727	**4**	**Spring Clip**	8124–266
	5	**Screw,** No. 4x$\frac{5}{16}$" Rd. Hd. Hardened (Tin Pl.)	
214307	**6**	**Lamp Socket Complete**	12415–12
149105	**7**	**Stud**	8114–361
103818	**8**	**Nut**	8109–495
1515	**9**	**Nut**	8109–23
149104	**10**	**Spring**	8124–218
104278	**11**	**Lead Complete** (2-Wires) for Ref. A	B–9990–50
103716	**12**	**Handle**	8311–115
104166	**13**	**Wire Clamp**	11893–855

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Reflector and Terminal Boards

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	14	**Machine Screw,** No. 8-36x½″ Fil. Hd. Br. (N.P.) with No. 8 Pl. S. Lock Washer (1/16″x3/64″) (Tin Pl.)	
151300	15	**Washer**	7828–346
158572	16	**Gasket**	8078–76
106871	17	**Washer**	8078-379
	18	**Machine Screw,** No. 8-36x5/16″ Fil. Hd. Br. (N.P.) with No. 8 Pl. S. Lock Washer (1/16″x3/64″) (Tin Pl.)	
106568	19	**Reflector Complete**	C–16671–14
108121	20	**Resistor Bracket with Terminal Posts**	9065–288
	21	**Terminal Post with Nuts and Washers** (Inc. 1-21a, 3-22 and 3-23)	12451–
110803	21a	**Terminal Post Only** for Ref. 21	8094–1039
26545	22	**Nut**	8109–181
53	23	**Washer**	7828–5
104282	24	**Terminal Board**	9968–1238
	25	**Terminal Post with Nuts and Washers** (Inc. 1-25a, 3-26, 1-27 and 2-28)	12451–
130593	25a	**Terminal Post Only** for Ref. 25	8094–843
29102	26	**Washer**	7828–139
127260	27	**Nut**	8109–194
29101	28	**Nut**	8109–193
104301	29	**L.H. Socket Housing** for Ref. 2 (With Lug "Y" and without Lug "Z")	8750–2868
104028	29a	**R.H. Socket Housing** for Ref. 2a (With Lug "Z" and without Lug "Y")	8750–2868
103711	30	**Socket Housing Cover**	8750–2869

Style "H-5" Three-Position Color Light Searchlight Signal

Detail Parts

Reflector and Terminal Boards

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	31	**Machine Screw,** No. 10-30x1⅛" Flat Hd. Br. (N.P.) with No. 10 Pl. S. Lock Washer (1/16"x¾") (Tin Pl.) and Nut Ref. 32	
26942	**32**	**Nut**	8109–184
103728	**33**	**Handle**	8311–116
103820	**34**	**Lead Complete** (Black)	B–9990–46
103821	**34a**	**Lead Complete** (White)	B–9990–46
103822	**34b**	**Lead Complete** (Red)	B–9990–46
103823	**34c**	**Lead Complete** (Blue)	B–9990–46
103824	**34d**	**Lead Complete** (Green)	B–9990–46
103825	**34e**	**Lead Complete** (Yellow)	B–9990–46
103826	**34f**	**Lead Complete** (Brown)	B–9990–46
103827	**34g**	**Lead Complete** (Orange)	B–9990–46
104408	**35**	**Terminal Marker** (Numbered on two sides for use with R.H. or L.H. Terminal Board)	8988–163

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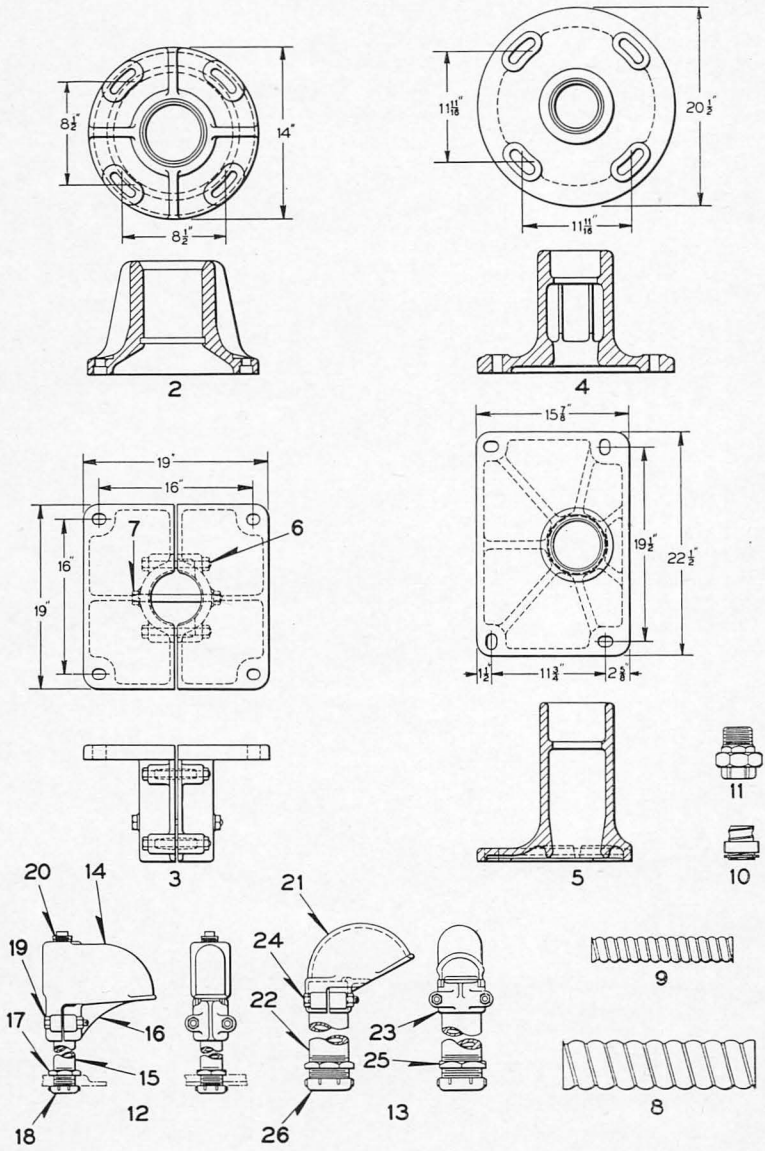
PLATE B-2898

UNION SWITCH & SIGNAL CO.



BASES, CABLE OUTLETS AND FITTINGS

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCHLIGHT SIGNAL

DETAIL PARTS

BASES, CABLE OUTLETS AND FITTINGS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
115264	**2**	**Base (Leaded)** for 5″ Pipe (for mounting on Instrument Case)	C–3231–2
170595	**3**	**Clamped Socket Complete** for 5″ Pipe with Four Bolts Ref. 6 and One Bolt Ref. 7 (For mounting on Bridge Signal Post)	C–6425–3
60096	**3a**	**Half Socket** for Ref. 3	C–6425–3
131006	**4**	**Base (Leaded)** for 5″ Pipe (For Ground Mounting)	C–6782–11
182226	**5**	**Base (Leaded)** for 5″ Pipe (For Bracket Mounting)	C–6782–13
	6	**Bolt, ¾″x7″** Sq. Hd. with ¾″ Hex. Nut for Ref. 3.	
	7	**Bolt, ⅝″x8¾″** Sq. Hd. with ¾″ Hex. Nut for Ref. 3.	
	8	**Conduit Double Strip Flexible** 1½″ I.D. x 2.060″ O.D. x 2′ 4″ Long.	
	8a	**Conduit Double Strip Flexible** 1½″ I.D.x2.060″ O.D. x 20″ Long.	
	9	**Conduit Double Strip Flexible** $\frac{13}{16}$″ I.D. x 1.148″ O.D. x 2′ 2″ Long.	
	10	**Jake Straight Box Connector, 1½″** M. I. (Galv.).	
	10a	**Jake Straight Box Connector, ¾″** M. I. (Galv.).	
	11	**Male and Female Union, 1½″** M. I. (Galv.).	
	11a	**Male and Female Union, ¾″** M. I. (Galv.).	
152573	**12**	**Cable Outlet Complete** with Pipe, Lock Nut and Pipe Plug, for 1½″ Pipe	B–10342–46
	13	**Cable Outlet Complete** with Pipe, Bushing and Lock Nut, for 2½″ Pipe	B–10342–8
123274	**14**	**Cap** with 1″ Pipe Tap	B–10342–46

UNION SWITCH & SIGNAL CO.

COLOR LIGHT SEARCHLIGHT SIGNAL
(Continued)

DETAIL PARTS

BASES, CABLE OUTLETS AND FITTINGS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
45152	**15**	**Pipe, 1½″x16½″ Long** (Galv.) for Ref. 12	B–10342–3
63171	**16**	**Clamp**	B–10342–1
	17	**Lock Nut, 1½″.**	
	18	**Bushing, 1½″.**	
	19	**Bolt, ½″x2¾″** Hex. Hd. with ½″ Hex. Nut.	
	20	**Pipe Plug, 1″.**	
49658	**21**	**Cap**	B–10342–8
149005	**22**	**Pipe, 2½″x12″ Long** (Galv.) for Ref. 13	B–11015–18
49659	**23**	**Clamp**	B–10342–8
	24	**Bolt, ½″x3½″** Hex. Hd. with ½″ Hex. Nut.	
	25	**Lock Nut, 2½″.**	
	26	**Bushing, 2½″.**	

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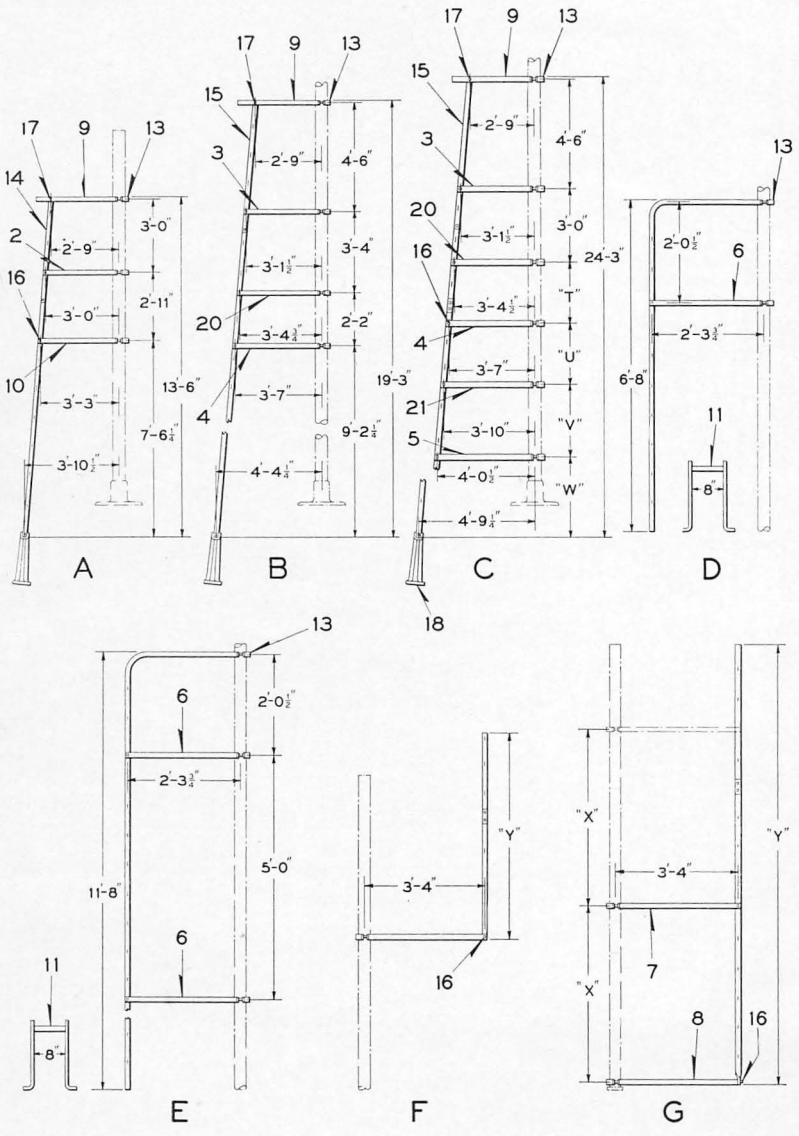

Ladders and Details

Color Light Searchlight Signal

Detail Parts

Ladders and Details

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
181644	**A**	**Ladder, 13′-6″ Long** with Handrail, Platform and Ladder Stay, for all signals shown on Plate B-2865 (Does not include Ladder Foundation Pier Ref. 18)	B–10313–345
164614	**B**	**Ladder, 19′-3″ Long** with two Handrails, and two Platforms, for all signals shown on Plate B-2867 (Does not include Ladder Foundation Pier Ref. 18)	B–10313–475
161324	**C**	**Ladder, 24′-3″ Long** with three Handrails, and three Platforms, for all "H" and "H-2" Signals shown on Plate B-2869 (Does not include Ladder Foundation Pier Ref. 18) T—2′-6″; U—2′-6″; V—3′-0″; W—8′-8¼″	B–10313–466
216991	**Ca**	**Ladder, 24′-3″ Long** with three Handrails and three Platforms, for all "H-5" Signals shown on Plate B-2869 (Does not include Ladder Foundation Pier Ref. 18) T—2′-2″; U—3′-0″; V—2′-6″; W—9′-0¼″	B–10313–466
182255	**D**	**Ladder, 6′-8″ Long** with Platform, for Refs. F and Fa, Plate B-2872	B–10313–512
	Da	**Ladder, 6′-9″ Long** with Platform, for Ref. Fb, Plate B-2872	B–10313–
182251	**E**	**Ladder, 11′-8″ Long** with two Platforms, for Refs. G and Ga, Plate B-2872	B–10313–512
	Ea	**Ladder, 11′-9″ Long** with two Platforms, for Ref. Gb, Plate B-2872	B–10313–
	F	**Ladder with Platform** as shown (Orders should specify "Y" dim.) for Refs. B, Ba and Bb, Plate B-2872	B–10313–
	G	**Ladder with Two Platforms** as shown in full lines (Orders should specify "Y" dim.) (Unless otherwise specified "X" dim. will be 5′-0″) for Refs. C, Ca and Cb, Plate B-2872	B–10313–
	Ga	**Ladder with Three Platforms** as shown in full and dot and dash lines (Orders should specify "Y" dim.) (Unless otherwise specified "X" dims. will be 5′-0″) for Refs. D, Da and Db, Plate B-2872	B–10313–
116628	**2**	**Platform** (3′-0″ Centers) with Clamp Ref. 13 and ½″ x1″ Sq. Hd. Bolts and Nuts	B–7501–73

Color Light Searchlight Signal

Detail Parts

Ladders and Details

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
150198	**3**	**Platform** (3′-1½″ Centers) with Clamp Ref. 13 and ½″x1″ Sq. Hd. Bolts and Nuts	B–7501–90
115047	**4**	**Platform** (3′-7″ Centers) with Clamp Ref. 13 and ½″ x1″ Sq. Hd. Bolts and Nuts	B–7501–64
150946	**5**	**Platform** (4′-0½″ Centers) with Clamp Ref. 13 and ½″x1″ Sq. Hd. Bolts and Nuts	B–7501–90
153701	**6**	**Platform** (2′-3¾″ Centers) with Clamp Ref. 13 and ½″x1″ Sq. Hd. Bolts and Nuts	B–7501–126
141411	**7**	**Platform** (3′-4″ Centers) with Clamp Ref. 13 and ½″x1¼″ Sq. Hd. Bolts and Nuts	B–7501–111
141060	**8**	**Platform** (3′-4″ Centers) with Clamp Ref. 13 and ½″x1¼″ Sq. Hd. Bolts and Nuts	B–7501–110
119794	**9**	**Top Handrail** (2′-9″ Centers) with Clamp Ref. 13 and ½″x1¼″ Sq. Hd. Bolts and Nuts	B–7501–75
68848	**10**	**Ladder Stay** (3′-3″ Centers) with Clamp Ref. 13	B–7501–22
139	**11**	**Rung**	B–8365–1
39147	**12**	**Rung** (Not shown) for Refs. 2, 3, 4, 5 and 6	B–8365–11
25263	**13**	**Clamp** with Two Bolts Ref. 13a	B–7501–8
36832	**13a**	**Bolt,** ½″x2″ with Hex. Nut	8280–81
116624	**14**	**Brace**	B–8365–72
150211	**15**	**Brace**	B–8365–81
	16	**Bolt,** ½″x1″ Sq. Hd. with Sq. Nut	
	17	**Bolt,** ½″x1¼″ Sq. Hd. with Hex. Nut	
62563	**18**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
141057	**19**	**Rung** (Not shown) for Refs. 7 and 8	B–8365–54
195081	**20**	**Handrail** (3′-4¾″ Centers) with Clamp Ref. 13 and ½″x1¼″ Sq. Hd. Bolts and Nuts	B–7501–164
119821	**21**	**Handrail** (3′-10″ Centers) with Clamp Ref. 13 and ½″x1¼″ Sq. Hd. Bolts and Nuts	B–7501–75

Section
B

SIGNALS

Style "G" Color Position Light Signals

Union Switch & Signal Co.
Swissvale, Pa.

Oct., 1935

Printed in U. S. A.

File Plates In Proper Sequence In Loose Leaf Cover

UNION SWITCH & SIGNAL CO.

SECTION "B"
STYLE "G" COLOR POSITION LIGHT SIGNALS

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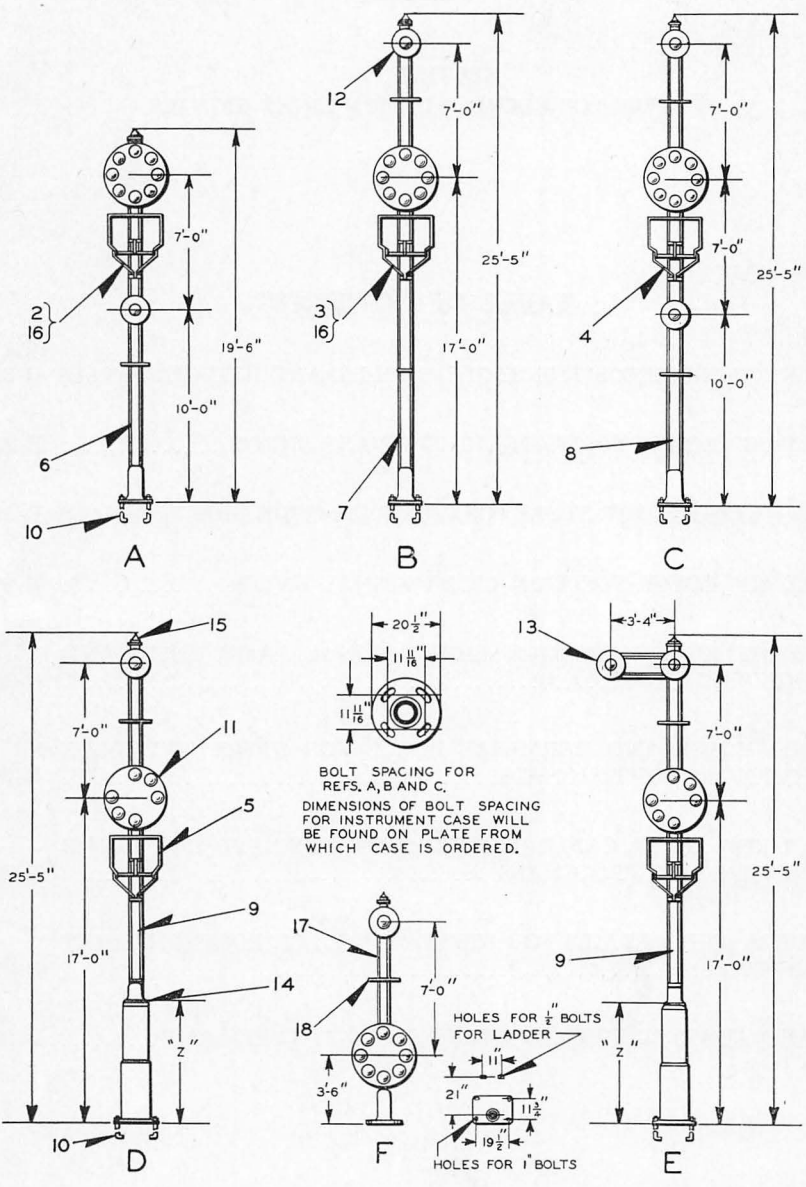
PLATE B-2905

UNION SWITCH & SIGNAL CO.



STYLE "G" COLOR POSITION LIGHT GROUND AND BRIDGE SIGNALS

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT GROUND AND BRIDGE SIGNALS

If signals of different dimensions than those shown are desired, orders should so state.

All signal units are equipped at the factory with lamp receptacles Ref. 25, Plate B-2930.

Orders must specify reference for lamp (See Refs. 28 and 29, Plate B-2930), also adapter if required (See Refs. 26 and 26a, Plate B-2930). Orders must specify street ell Ref. 11 and nipple Ref. 12, Plate B-2945 when required.

If signals are required according to A. A. R. specification 162-35 (Electric Color Position Light Signals), Adjustable Adapter Ref. 26, and lamp Ref. 28, Plate B-2930 will be furnished.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	A	**One Arm and Marker Style "G" Color Position Light Ground Signal** with Ladder, 5″ Pipe Post, Pinnacle and Foundation Bolts as shown. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit and Refs. A to Ae of Plate B-2915 for Marker Unit)	C–9235–2
	B	**One Arm and Marker Style "G" Color Position Light Ground Signal** with Ladder, 5″ and 6″ Pipe Post, Pinnacle and Foundation Bolts as shown. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit and Refs. A to Ae of Plate B-2915 for Marker Unit)	C–9235–2
	C	**One Arm and Two Markers Style "G" Color Position Light Ground Signal** with Ladder, 5″ and 6″ Pipe Post, Pinnacle and Foundation Bolts as shown. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit, Refs. A to Ae of Plate B-2915 for Marker Unit for 5″ Pipe Post and Refs. Af to Am of Plate B-2915 for Marker Unit for 6″ Pipe Post)	C–9235–2
	D	**One Arm and Marker Style "G" Color Position Light Ground Signal** with double Instrument Case ("Z" dim. 6′-4¼″), Ladder, 5″ Pipe Post, Pinnacle and Foundation Bolts as shown. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit, Refs. A to Ae of Plate B-2915 for Marker Unit and to Section "L" Catalog for Instrument Case)	C–9235–2
	Da	**One Arm and Marker Style "G" Color Position Light Ground Signal** with single Instrument Case ("Z" dim. 3′-4¼″), Ladder, 5″ and 6″ Pipe Post, Pinnacle and Foundation Bolts. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit, Refs. A to Ae of Plate B-2915 for Marker Unit and to Section "L" Catalog for Instrument Case)	C–9235–

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT GROUND AND BRIDGE SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	E	**One Arm and Double Marker Style "G" Color Position Light Ground Signal** with double Instrument Case ("Z" dim. 6′-4¼″), 5″ Pipe Post, Pinnacle and Foundation Bolts as shown. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Units, Refs. B to Be of Plate B-2915 for Marker Unit and to Section "L" Catalog for Instrument Case)	C–9235–2
	Ea	**One Arm and Double Marker Style "G" Color Position Light Ground Signal** with single Instrument Case ("Z" dim. 3′-4¼″), Ladder, 5″ and 6″ Pipe Post, Pinnacle and Foundation Bolts. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit, Refs. B to Be of Plate B-2915 for Marker Unit and to Section "L" Catalog for Instrument Case)	C–9235–
	F	**One Arm and Marker Style "G" Color Position Light Bridge Signal** with Ladder, 5″ Pipe Post and Pinnacle as shown. (Orders should specify Units required by referring to Refs. A to Av of Plate B-2920 for Signal Unit and Refs. A to Ae of Plate B-2915 for Marker Unit) (Mounting Bolts for Post and Ladder not included)	C–9235–4
153589	2	**Ladder** with two Platforms, Handrails and Stays as shown for Ref. A (For details refer to Ref. A, Plate B-2950)	B–10313–448
153591	3	**Ladder** with two Platforms, Handrails and Stays as shown for Ref. B (For details refer to Ref. B, Plate B-2950)	B–10313–445
153641	4	**Ladder** with three Platforms, Handrails and Stays as shown for Ref. C. (For details refer to Ref. C, Plate B-2950)	B–10313–450
153277	5	**Ladder** with two Platforms, Handrails and Stays as shown for Refs. D, Da, E and Ea. (For details refer to Ref. Ba, Plate B-2950)	B–10313–445

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT GROUND AND BRIDGE SIGNALS (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
153575	**6**	**Post,** 5″ Pipe with Base (drilled for Wire Outlets) for Ref. A	B–9893–118
153516	**7**	**Post,** 5″ and 6″ Pipe with Base (drilled for Wire Outlets) for Ref. B	B–9893–185
153590	**8**	**Post,** 5″ and 6″ Pipe with Base (drilled for Wire Outlets) for Ref. C	B–9893–134
153305	**9**	**Post,** 5″ Pipe with Base (drilled for Wire Outlets) for Refs. D and E	B–9893–259
	9a	**Post,** 5″ and 6″ Pipe with Base (drilled for Wire Outlets for Refs. Da and Ea	B–9893–
10276	**10**	**Foundation Bolt,** 1″x3′-0″ with 1″ Hex. Nut and 1″ Std. Plate Washer	7913–54
	11	**Style "G" Color Position Light Signal Unit.** (When ordering refer to Plate B-2920)	C–9330–2
	12	**Single Marker Light Unit.** (When ordering refer to Plate B-2915)	C–9330–3
	13	**Double Marker Light Unit.** (When ordering refer to Plate B-2915)	C–9330–4
	14	**Double Instrument Case,** 6′-4¼″ high. (When ordering refer to Section "L" Catalog)	C–7589–
	14a	**Single Instrument Case,** 3′-4¼″ high. (When ordering refer to Section "L" Catalog)	C–7589–
150818	**15**	**Pinnacle** complete. (For details refer to Plate B-2945)	B–8121–17
62563	**16**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10
153710	**17**	**Post,** 5″ Pipe with Base (drilled for Wire Outlets) for Ref. F	B–9893–247
153713	**18**	**Ladder** with one Platform as shown for Ref. F. (For details refer to Ref. D, Plate B-2950)	B–10313-336

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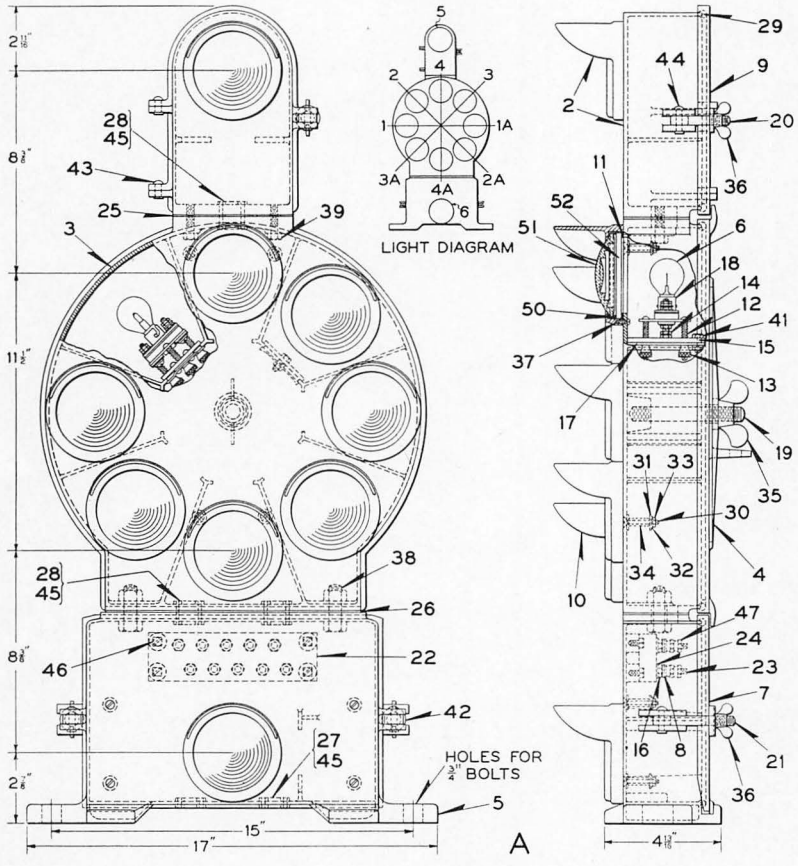
PLATE B-2911

UNION SWITCH & SIGNAL CO.



STYLE "G" COLOR POSITION LIGHT
DWARF SIGNALS

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT DWARF SIGNALS

Unless otherwise specified all signals will be furnished with 13.5-Volt 17-Watt S-11 type lamp Ref. 6

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "G" D.C. Color Position Light Dwarf Signal Complete, Dwg. C-9125, Sh. 2								
Piece	Ref.	Color Description						Indication
		Space 1-1A	Space 2-2A	Space 3-3A	Space 4-4A	Space 5	Space 6	
173910	**A**	Red		Yellow		Without	Clear, Sand Blasted on Front	2-Pos. 0°-45° U. Q.
173911	**Aa**	Red		Yellow		Clear, Sand Blasted on Front	Without	2-Pos. 0°-45° U.Q.
176286	**Ab**	Red		Yellow		Clear, Sand Blasted on Front	Clear, Sand Blasted on Front	2-Pos. 0°-45° U.Q.
176287	**Ac**	Red	Lunar White	Yellow		Without	Clear, Sand Blasted on Front	3-Pos. 0°-45° U.Q. and 45° L.Q.
177386	**Ad**	Red	Lunar White			Without	Without	2-Pos. 0°-45° L.Q.
183140	**Ae**	Red	Lunar White			Clear, Sand Blasted on Front	Without	2-Pos. 0°-45° L.Q.
183141	**Af**	Red		Yellow	Green	Clear, Sand Blasted on Front	Without	3-Pos. 0°-45° and 90° U.Q.
183142	**Ag**	Red	Lunar White	Yellow	Green	Without	Clear, Sand Blasted on Front	4-Pos. 0°-45° and 90° U.Q. and 45° L.Q.

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT DWARF SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "G" D.C. Color Position Light Dwarf Signal Complete, Dwg. C-9125, Sh. 2

Piece	Ref.	Color Description						Indication
		Space 1-1A	Space 2-2A	Space 3-3A	Space 4-4A	Space 5	Space 6	
188120	**Ah**	Red	Lunar White	Yellow	Green	Without	Without	4-Pos. 0°-45° and 90° U.Q. and 45° L.Q.
189083	**Aj**	Red	Lunar White	Yellow	Green	Clear, Sand Blasted on Front	Clear, Sand Blasted on Front	4-Pos. 0°-45° and 90° U.Q. and 45° L.Q.
189281	**Ak**	Red	Lunar White	Yellow		Without	Without	3-Pos. 0°-45° U.Q. and 45° L.Q.
191789	**Am**	Red	Lunar White	Yellow		Clear, Sand Blasted on Front	Without	3-Pos. 0°-45° U.Q. and 45° L.Q.

Piece	Ref.	Description	Drawing Reference
181073	**2**	Material Necessary for adding **Top Marker Light** to existing Color Position Light Dwarf Signals (Inc. 1-2a, 1-9, 1-10, 1-11, 3-12, 3-13, 2-14, 1-15, 1-17, 1-18, 1-20, 1-25, 1-28, 1-36, 6-37, 2-39, 1-41, 1-42, 2-43, 1-44, 2-45, 1-52d, 1-50 and 1-51)	D-2351-3
173872	**2a**	**Top Casting Only**	C-9124-11
173827	**3**	**Frame** for Refs. A to Am	C-9124-9
	4	**Cover** with ¼" Rd. Braided Torch Wicking Gasket for Refs. A to Am	C-9124-12
173867	**5**	**Base Casting**, for Refs. A to Am	C-9124-10

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT DWARF SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
135722	**6**	**Lamp,** $\frac{1}{64}$" Precision S-11 Single Contact 13.5-Volts, 17-Watts. (Pins in base 90° from plane of filament).	B–12409–18
	7	**Cover Complete** with $\frac{1}{4}$" Rd. Braided Torch Wicking Gasket for Refs. A to Am	C–9124–12
29102	**8**	**Washer**	7828–139
	9	**Top Casting Door** with $\frac{1}{4}$" Rd. Braided Torch Wicking Gasket	C–9124–11
173875	**10**	**Hood**	C–9124–11
174163	**11**	**Gasket**	8078–437
175905	**12**	**Spring**	8124–244
4421	**13**	**Nut** (Knurled)	8109–82
410169	**14**	**Hex. Nut**	410169
174692	**15**	**Lamp Socket Support Complete** (For all indications except 90°)	C–9124–10
174693	**15a**	**Lamp Socket Support Complete** (For 90° Indication)	C–9124–10
29103	**16**	**Hex. Nut**	8109–194
174614	**17**	**Spring Clamp**	8735–746
174451	**18**	**Lamp Socket Complete**	12415–31
173891	**19**	**Stud**	8071–162
174396	**20**	**Eye Bolt**	8034–98
173943	**21**	**Eye Bolt**	8034–98
173941	**22**	**Terminal Board Complete** (Inc. 1-22a and 10-23)	9968–1054

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT DWARF SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
173942	22a	**Terminal Board Only**, for Ref. 22	9968–1053
	23	**Terminal Post** with Nuts and Washers. (Inc. 1-23a, 1-24, 2-47, 2-8 and 1-16)	12451–
115706	23a	**Terminal Post Only**, for Ref. 23	8094–1192
29104	24	**Washer**	7828–138
174408	25	**Top Gasket**	8078–1517
174409	26	**Bottom Gasket**	8078–1518
174338	27	**Bushing**	8095–669
174339	28	**Bushing**	8095–669
	29	**¼″ Round Braided Torch Wicking** (Specify length required).	
	30	**Machine Screw No. 8-32x1½″** Flat Hd. S. (Cad. Pl.) with Washer Ref. 31, Washer Ref. 32, Hex. Nut Ref. 33 and Bushing Ref. 34	12471–
	30a	**Machine Screw No. 8-32x1½″** Flat Hd. S. (Cad. Pl.) for Ref. 30.	
173909	31	**Washer** for Ref. 30	8078–344
73493	32	**Washer** for Ref. 30	7826–78
122731	33	**Hex. Nut** for Ref. 30	8109–192
173897	34	**Bushing** for Ref. 30	8095–13
	35	**⅝″ Wing Nut** (Cad. Pl.)	
	36	**⅜″ Wing Nut** (Cad. Pl.)	
	37	**Machine Screw No. 8-32x⅜″** Rd. Hd. S. (Cad. Pl.)	

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT DWARF SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	38	**Bolt** ½″x1½″ Hex. Hd. S. (Cad. Pl.) with ½″ Hex. Nut (Cad. Pl.)	
	39	**Tap Bolt** $\frac{5}{16}$″-18x1¼″ Hex. Hd. S. (Cad. Pl.)	
	40	**Tap Bolt** $\frac{5}{16}$″-18x1″ Hex. Hd. S. (Cad. Pl.) (Not shown) for fastening Cap Ref. 48 when Top Marker is not used.	
	41	**Tap Bolt** ¼″-20x⅝″ Hex. Hd. S. (Cad. Pl.) with ¼″ Hex. Nut (Cad. Pl.) and ¼″ Plain S. Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″) (Cad. Pl.)	
	42	**⅜″ S. Plate Washer** (Cad. Pl.)	
	43	**Rivet** ¼″x⅝″ Rd. Hd. Copper.	
	44	**Rivet** ¼″x1″ Rd. Hd. Copper.	
	45	**¾″ Conduit Lock Nut.**	
	46	**Machine Screw** No. 10-24x¾″ Fil. Hd. S. (Cad. Pl.).	
29101	47	**Hex. Nut**	8109–193
173874	48	**Cap** (Not shown) (Used when Top Marker is not required)	C–9124–11
174372	49	**Blind Cover** (Not shown) with Three Screws Ref. 37, used when Bottom Marker, 0°, 45° or 90° Indication is not required	C–9124–11
149564	50	**Gasket**	8078–437
135274	51	3½″ Diam. Clear Lens	B–8276–32
141359	52	3½″ Diam. 20° Flat Spreader Red Roundel	8468–52
141360	52a	3½″ Diam. 20° Flat Spreader Yellow Roundel	8468–52
141363	52b	3½″ Diam. 20° Flat Spreader Lunar White Roundel	8468–52

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT DWARF SIGNALS

(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
141361	**52c**	3½″ Diam. 20° Flat Spreader Green Roundel.....	8468–52
141364	**52d**	3½″ Diam. 20° Flat Spreader Clear (Sand Blasted on front side only) Roundel.....	8468–52
141362	**52e**	3½″ Diam. 20° Flat Spreader Clear Roundel.....	8468–52
182592	**52f**	3½″ Diam. 20° Flat Spreader Purple Roundel.....	8468–52

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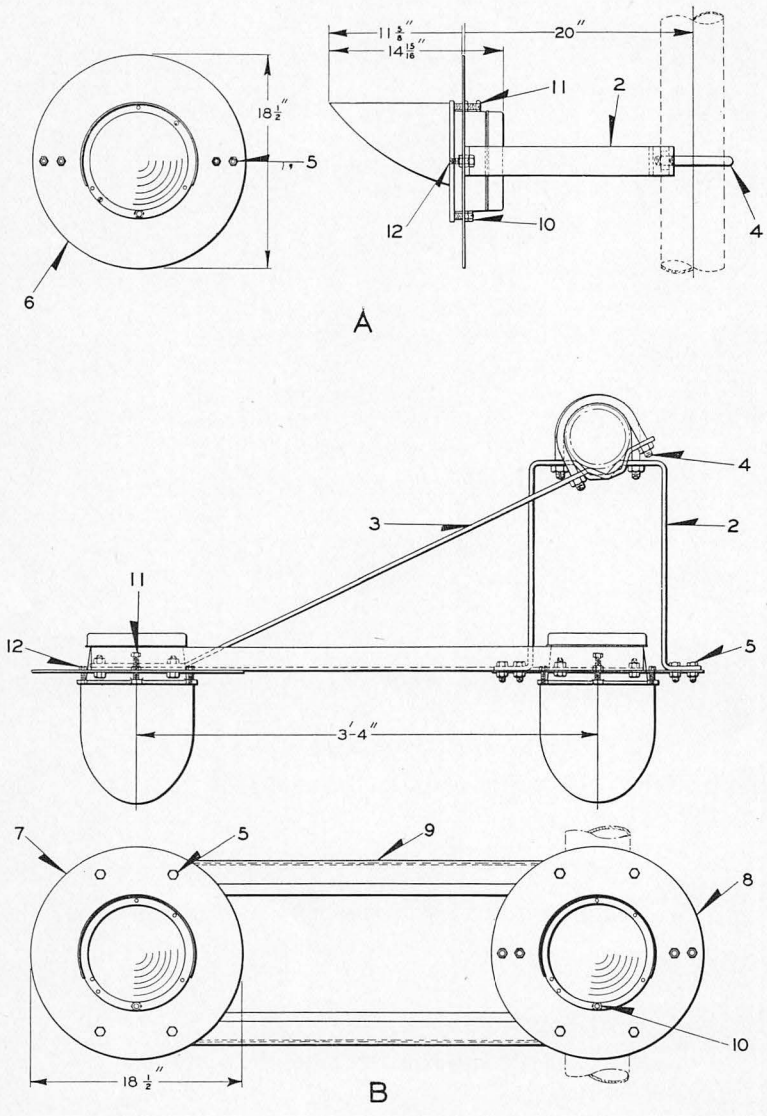
PLATE B-2915

UNION SWITCH & SIGNAL CO.



STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
SINGLE AND DOUBLE MARKER LIGHT UNITS

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
SINGLE AND DOUBLE MARKER LIGHT UNITS

If units with different color lens than those listed are desired, orders should so state.

All signal units are equipped at the factory with lamp receptacles Ref. 25, Plate B-2930.

Orders must specify reference for lamp (see Refs. 28 and 29, Plate B-2930), also adapter if required (see Refs. 26 and 26a, Plate B-2930). Orders must specfy street ell Ref. 11 and nipple Ref. 12, Plate B-2945 when required.

If signals are required according to A. A. R. Specification 162-35 (Electric Color Position Light Signals), Adjustable Adapter Ref. 26, and lamp Ref. 28, Plate B-2930 will be furnished.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Single Marker Light Unit, complete with 18½" Background, Bracket and "U" Bolt for attaching to 5" Pipe Post.

Piece	Ref.	Color Light Unit Plate B-2930		Remarks	Dwg. Ref.
		Ref.	Color		
170301	**A**	**Ah**	Clear		C–9330–3
	Aa	**Ak**	Clear	30° Spread	C–9330–3
	Ab	**A**	Lunar White		C–9330–3
	Ac	**Ac**	Red		C–9330–3
	Ad	**Ab**	Yellow		C–9330–3
	Ae	**Aj**	Clear	With Letter "S"	C–9330–3

Single Marker Light Unit, complete with 18½" Background, Bracket and "U" Bolt for attaching to 6" Pipe Post.

Piece	Ref.	Color Light Unit Plate B-2930		Remarks	Dwg. Ref.
		Ref.	Color		
	Af	**Ah**	Clear		C–9330–3
	Ag	**Ak**	Clear	30° Spread	C–9330–3
	Ah	**A**	Lunar White		C–9330–3
	Aj	**Ac**	Red		C–9330–3
	Ak	**Ab**	Yellow		C–9330–3
	Am	**Aj**	Clear	With Letter "S"	C–9330–3

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS
(Continued)

DETAIL PARTS

SINGLE AND DOUBLE MARKER LIGHT UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Double Marker Light Unit, complete with 18½″ Backgrounds, Brackets and "U" Bolts for attaching to 5″ Pipe Post.

Piece	Ref.	Color Light Unit Plate B-2930		Remarks	Dwg. Ref.
		Ref.	Color		
169027	**B**	**Ah**	Clear		C–9330–4
	Ba	**Ak**	Clear	30° Spread	C–9330–4
	Bb	**A**	Lunar White		C–9330–4
	Bc	**Ac**	Red		C–9330–4
	Bd	**Ab**	Yellow		C–9330–4
	Be	**Aj**	Clear	With Letter "S"	C–9330–4

Double Marker Light Unit, complete with 18½″ Backgrounds, Brackets and "U" Bolts for attaching to 6″ Pipe Post.

Piece	Ref.	Color Light Unit Plate B-2930		Remarks	Dwg. Ref.
		Ref.	Color		
	Bf	**Ah**	Clear		C–9330–4
	Bg	**Ak**	Clear	30° Spread	C–9330–4
	Bh	**A**	Lunar White		C–9330–4
	Bj	**Ac**	Red		C–9330–4
	Bk	**Ab**	Yellow		C–9330–4
	Bm	**Aj**	Clear	With Letter "S"	C–9330–4

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

(Continued)

DETAIL PARTS

SINGLE AND DOUBLE MARKER LIGHT UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410673	**2**	**Bracket** for 5″ Pipe	410673–1
413539	**2a**	**Bracket** for 6″ Pipe	410673–2
410681	**3**	**Bottom Brace** for Double Unit	410681–
410682	**3a**	**Top Brace** for Double Unit	410682–
43128	**4**	**¾″ "U" Bolt** with ¾″ Hex. Nuts for 5″ Pipe	8782–63
125454	**4a**	**¾″ "U" Bolt** with ¾″ Hex. Nuts for 6″ Pipe	8782–167
	5	**Bolt** ½″x1¼″ Hex. Hd. with ½″ Hex. Nut for attaching Background to Bracket.	
168993	**6**	**Background,** 18½″ Diameter, for Single Marker Unit	C–9331–1
168994	**7**	**Background,** 18½″ Diameter, for Double Marker Unit	C–9331–1
168995	**8**	**Background,** 18½″ Diameter, for Double Marker Unit	C–9331–1
410680	**9**	**Angle** for Double Marker Unit	410680–
410670	**10**	**Bolt** with Nut Ref. 10a	410670–
534	**10a**	**Hex. Nut ⅜″**	8109–29
410671	**11**	**Special Bolt,** ⅜″x2″, with Nut Ref. 10a	410671–
169496	**12**	**Bolt** ⅜″x1⅝″	8709–58

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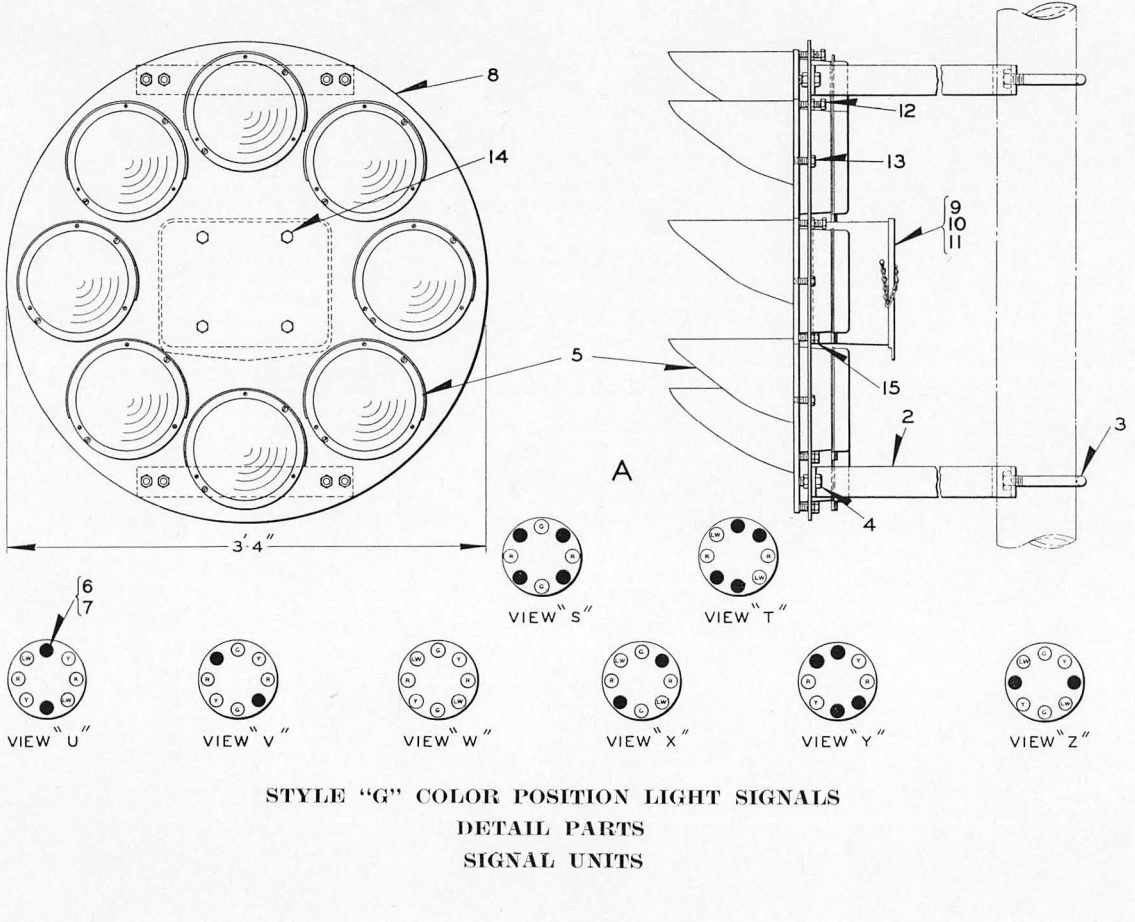

STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
SIGNAL UNITS

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
SIGNAL UNITS

All signal units are equipped at the factory with lamp receptacles Ref. 25, Plate B-2930.

Orders must specify reference for lamp (see Refs. 28 and 29, Plate B-2930) also adapter if required (see Refs. 26 and 26a, Plate B-2930). Orders must specify street ell Ref. 11 and nipple Ref. 12, Plate B-2945 when required.

If signals are required according to A. A. R. Specification 162-35 (Electric Color Position Light Signals), Adjustable Adapter Ref. 26, and lamp Ref. 28, Plate B-2930 will be furnished.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "G" Color Position Light Signal Unit, complete with Brackets and "U" Bolts for attaching to 5″ Pipe Post, Dwg. C–9330, sh. 2.

Piece	Ref.	Indication	Per View	Terminal Box Plate B-2935	Remarks
168620	**A**	2-Pos. 0°-45° U.Q.	"Y"	Ref. C	Yellow and Red Lenses
168625	**Aa**	2-Pos. 0°-45° U.Q.	"Y"	Ref. B	Yellow and Red Lenses
168611	**Ab**	3-Pos. 0°-45° U.Q. and 45° L.Q.	"U"	Ref. B	Lunar White, Yellow and Red Lenses
168612	**Ac**	3-Pos. 0°-45°-90° U.Q.	"V"	Ref. B	Green, Yellow and Red Lenses
168615	**Ad**	3-Pos. 0°-45°-90° U.Q.	"V"	Ref. Aa (With Transformers)	Green, Yellow and Red Lenses
168616	**Ae**	3-Pos. 0°-45°-90° U.Q.	"V"	Ref. C	Green, Yellow and Red Lenses
168618	**Af**	3-Pos. 0°-45° U.Q. and 45° L.Q.	"U"	Ref. C	Lunar White, Yellow and Red Lenses
168619	**Ag**	3-Pos. 0°-45°-90° L.Q.	"X"	Ref. C	Lunar White, Green and Red Lenses
168621	**Ah**	3-Pos. 45°-90° U.Q. and 45° L.Q.	"Z"	Ref. Ac (With Transformers)	Lunar White, Green and Yellow Lenses
168622	**Aj**	3-Pos. 0°-45°-90° L.Q.	"X"	Ref. Ab (With Transformers)	Lunar White, Green and Red Lenses
168623	***Ak**	3-Pos. 0°-45°-90° U.Q.	"V"	Ref. C	Green, Yellow and Red Lenses

*NOTE: Outer Lens has 30° spread

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

(Continued)

DETAIL PARTS

SIGNAL UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "G" Color Position Light Signal Unit, complete with Brackets and "U" Bolts for attaching to 5″ Pipe Post, Dwg. C–9330, sh. 2.

Piece	Ref.	Indication	Per View	Terminal Box Plate B-2935	Remarks
168613	**Am**	4-Pos. 0°-45°-90° U.Q. and 45° L.Q.	"W"	Ref. A (With Transformers)	Lunar White, Green, Yellow and Red Lenses
168614	**An**	4-Pos. 0°-45°-90° U.Q. and 45° L.Q.	"W"	Ref. B	Lunar White, Green, Yellow and Red Lenses
168617	**Ap**	4-Pos. 0°-45°-90° U.Q. and 45° L.Q.	"W"	Ref. C	Lunar White, Green, Yellow and Red Lenses
168624	***Aq**	4-Pos. 0°-45°-90° U.Q. and 45° L.Q.	"W"	Ref. C	Lunar White, Green, Yellow and Red Lenses
171972	**Ar**	2-Pos. 0°-45° L.Q.	"T"	Ref. B	Lunar White and Red Lenses
172047	**As**	2-Pos. 0°-90°	"S"	Ref. B	Green and Red Lenses
175837	***At**	4-Pos. 0°-45°-90° U.Q. and 45° L.Q.	"W"	Ref. B	Lunar White, Green, Yellow and Red Lenses
176409	**Au**	2-Pos. 0°-45° U.Q.	"Y"	Ref. Ad (With Transformers)	Yellow and Red Lenses
177387	***Av**	3-Pos. 0°-45°-90° L.Q.	"X"	Ref. B	Lunar White, Green and Red Lenses

*NOTE: Outer Lens has 30° spread

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

(Continued)

DETAIL PARTS

SIGNAL UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
410673	2	**Bracket** for 5″ Pipe	410673
43128	3	¾″ **"U" Bolt** with Hex. Nuts for 5″ Pipe	8782–63
	4	**Bolt** ½″x1¼″ Hex. Hd. with ½″ Hex. Nut for attaching Bracket to Signal Unit.	
	5	**Style "G" Color Position Light Signal Lamp Unit** (When ordering refer to Plate B-2930)	C–9332–1
410675	6	**Blind Hole Cover**	410675
	7	**Cap Screw** ⅜″x½″ Hex. Hd. for attaching Cover Ref. 6 to Unit.	
167673	8	**Background,** 3′-4″ Diameter	C–9331–1
	9	**Terminal Box,** complete (With Transformers) (When ordering refer to Plate B-2935)	C–7540–17
169343	10	**Terminal Box,** complete with Terminal Board and four A.A.R. Terminals (For details refer to Plate B-2935)	C–7540–18
167944	11	**Transformer and Terminal Box Only** (For details refer to Plate B-2935)	C–7540–17
410671	12	**Special Bolt** ⅜″x2″ with Hex. Nut Ref. 15a for Top of Unit	410671–
169496	13	**Bolt** ⅜″x1⅝″	8709–58
	14	**Tap Bolt** ½″-13x1″ Hex. Hd. with ½″ Plain Lock Washer ($\frac{3}{16}$″x$\frac{3}{32}$″) for attaching Terminal box to Background.	
410670	15	**Special Bolt,** ⅜″x1¼″ with Hex. Nut Ref. 15a for bottom of unit	410670–
534	15a	**Hex. Nut** for Refs. 12 and 15	8109–29

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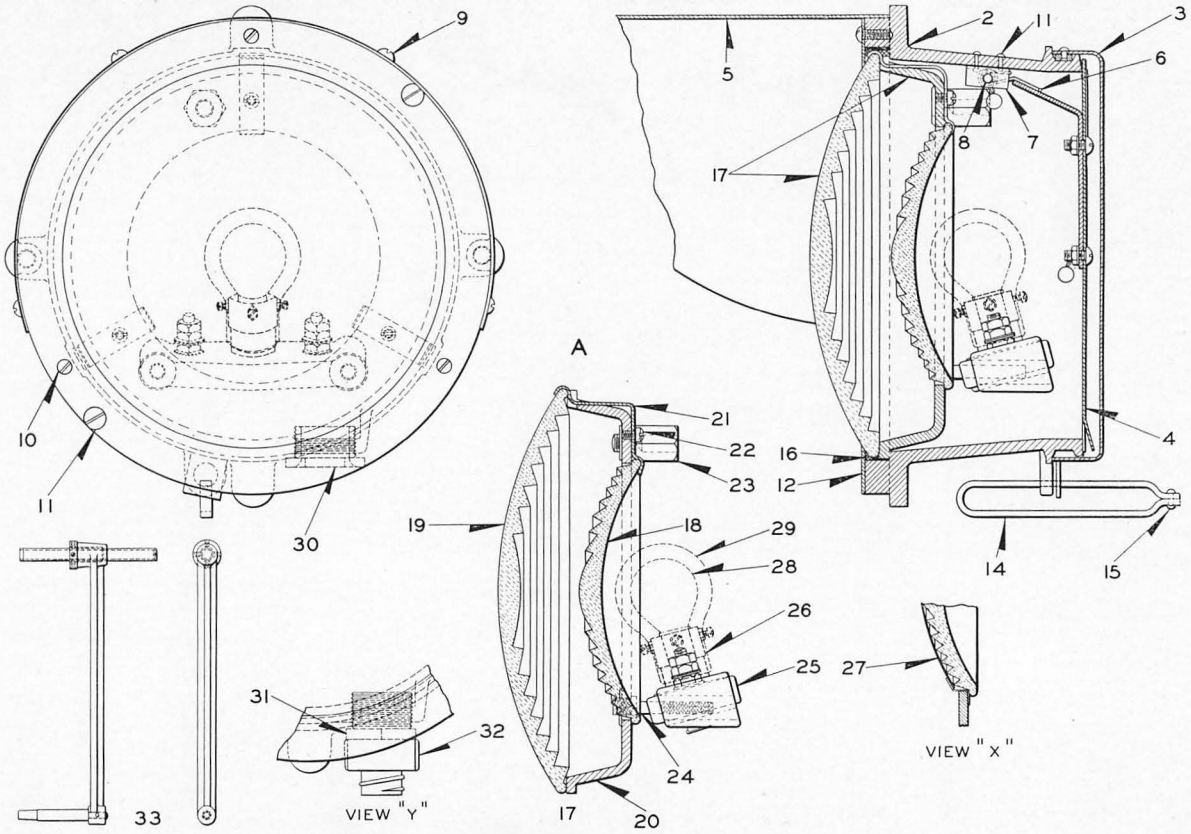

STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
LAMP UNITS

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

DETAIL PARTS

LAMP UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "G" Color Position Lamp Unit, complete (Without Lamp and Adapter)				
Piece	Ref.	Color of Inner Lens	Remarks	Dwg. Ref.
168591	**A**	Lunar White		C–9332–1
168592	**Aa**	Green		C–9332–1
168593	**Ab**	Yellow		C–9332–1
168594	**Ac**	Red		C–9332–1
168601	**Ad**	Lunar White	30° Spread	C–9332–1
168602	**Ae**	Green	30° Spread	C–9332–1
168603	**Af**	Yellow	30° Spread	C–9332–1
168604	**Ag**	Red	30° Spread	C–9332–1
168595	**Ah**	Clear	Sand Blasted	C–9332–1
169974	**Aj**	Clear	With Letter "S" View "X"	C–9332–1
170521	**Ak**	Clear	Sand Blasted, 30° Spread	C–9332–1
179604	**Am**	Yellow	Arranged per View "Y"	C–9332–1
179741	**An**	Red	Arranged per View "Y"	C–9332–1

Piece	Ref.	Description	Drawing Reference
167669	**2**	**Case Only**	C–9333–2
167619	**3**	**Cover**	C–9333–3
167709	**4**	**Disc**	C–9333–3
65898	**5**	**Hood**	C–8842–15

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

(Continued)

DETAIL PARTS

LAMP UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
167494	**6**	**Spring**	8124–241
167493	**7**	**Clip**	11893–542
167496	**8**	**Pin**	8097–420
	9	**Machine Screw** No. 10-30x¼" Rd. Hd. Br. for attaching Hood to Case.	
	10	**Machine Screw** No. 10-30x⅜" Rd. Hd. Br. for attaching Lens Ring to Case.	
	11	**Machine Screw** No. 14-24x⅜" Rd. Hd. Br. (Used to plug holes in lens housing when deflecting prism is not used.)	
71187	**12**	**Lens Ring**	7436–106
54937	**13**	**Rivet**	10301–50
169432	**14**	**Clip**	11893–566
54921	**15**	**Rivet** for Clip Ref. 14	10301–1
131706	**16**	**Gasket**	8078–1367

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS
(Continued)

DETAIL PARTS

LAMP UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Lens Unit, complete (Without Lamp and Adapter)

Piece	Ref.	Color of Inner Lens	Remarks	Dwg. Ref.
168586	**17**	Lunar White		C–9333–4
168587	**17a**	Green		C–9333–4
168588	**17b**	Yellow		C–9333–4
168589	**17c**	Red		C–9333–4
168590	**17d**	Clear	Sand Blasted	C–9333–4
168596	**17e**	Red	30° Spread	C–9333–4
168597	**17f**	Lunar White	30° Spread	C–9333–4
168598	**17g**	Yellow	30° Spread	C–9333–4
168599	**17h**	Green	30° Spread	C–9333–4
169973	**17j**	Clear	With Letter "S"	C–9333–4
170520	**17k**	Clear	Sand Blasted, 30° Spread	C–9333–4

Piece	Ref.	Description	Drawing Reference
133171	**18**	**5½" Lunar White Lens**	B–8276–23
71331	**18a**	**5½" Green Lens**	B–8276–23
68162	**18b**	**5½" Yellow Lens**	B–8276–23
71329	**18c**	**5½" Red Lens**	B–8276–23
135763	**18d**	**5½" Clear Lens** (Sand Blasted)	B–8276–23
151953	**18e**	**5½" Clear Lens** (With Letter "S")	B–8276–43

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

(Continued)

DETAIL PARTS

LAMP UNITS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
71186	**19**	**8⅜" Clear Front Lens**	B–8276–22
135757	**19a**	**8⅜" Clear Front Lens** (30° Spread)	B–8276–34
167670	**20**	**Lens Housing**	C–9333–1
167557	**21**	**Clip**	8735–714
	22	**Machine Screw** No. 10-30x¼" Fil. Hd. S. (Cad. Pl.)	
149681	**23**	**Telescope Stud**	8114–678
116518	**24**	**Stud** for attaching Lamp Base to Housing	8114–594
123630	**25**	**Lamp Base,** complete for "PS-16" Lamp Ref. 29	12415–6
150085	**26**	**Adjustable Adapter** (See Plate B-2975)	12415–14
146283	**26a**	**Fixed Adapter** (See Plate B-2975)	12415–10
78526	**27**	**Screen** (Used with Clear Lens only)	C–8901–3
135722	**28**	**Lamp,** 1/64" Precision S-11 Type Single Contact, 13.5 Volts, 17-Watts (Pins in base 90° from plane of filament) (For use with Adapter Ref. 26 or 26a)	B–12409–18
	29	**Lamp** (When Adapter Ref. 26 or 26a is not used) (See Plate B-3090) Rebased PS-16 Bulb	B–12409–
	30	**1" Galv. Chase Nipple.**	
	31	**Pipe Reducing Bushing,** 1" to ¾" M. I. Galv.	
	32	**Straight Box Connector,** ¾" M. I. Galv.	
167700	**33**	**Sighting Tube Complete** (Adaptable for all Units. One needed in each territory)	C–9003–7

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PLATE B-2935

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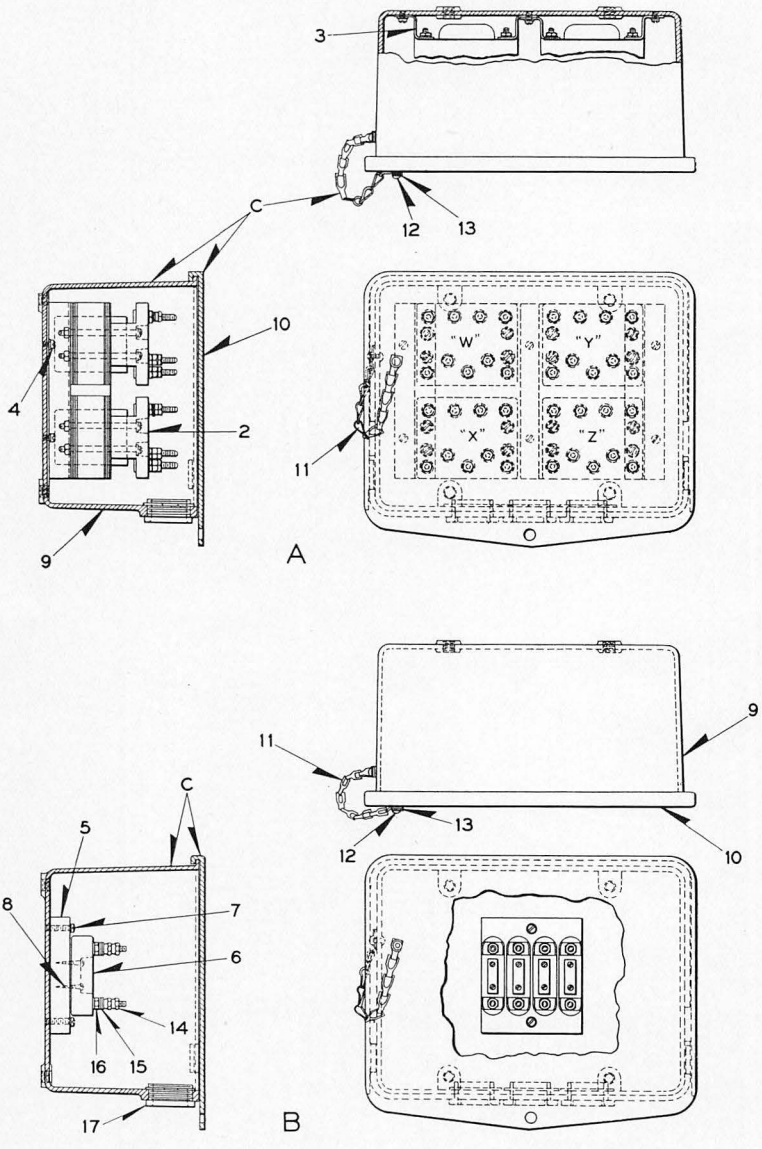

STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
TRANSFORMER AND TERMINAL BOXES

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

DETAIL PARTS

TRANSFORMER AND TERMINAL BOXES

Transformers Have Secondaries for 13½-Volt, 17-Watt Lamps

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Transformer Box, complete with Transformers

Piece	Ref.	Transformers				Dwg. Ref.
		No.	Volts	Cycles	In Spaces	
168970	**A**	4	110	60	W-X-Y-Z	C–7540–17
168971	**Aa**	3	110	60	W-X-Z	C–7540–17
167855	**Ab**	3	110	60	W-X-Y	C–7540–17
167674	**Ac**	3	110	60	W-Y-Z	C–7540–17
176408	**Ad**	2	110	60	X-Z	C–7540–17

Piece	Ref.	Description	Drawing Reference
169343	**B**	**Terminal Box,** complete with Terminal Board and four A.A.R. terminals	C–7540–18
167944	**C**	**Transformer and Terminal Box Only** with Cover and Chain	C–7540–17
140877	**2**	**Transformer,** complete 110 Volts, 60 Cycles	C–8605–5
167943	**3**	**Bracket** for Transformer	10914–255
	4	**Machine Screw** No. 14-24x3/8" Fil. Hd. S. with ¼" Plain Lock Washer (1/16"x1/16") Cad. Pl.	
169317	**5**	**Terminal Board Only**	9968–1028
	6	**A.A.R. Terminal Block Complete** with Nuts and Washers (Inc. 1-6a, 4-14 and 6-15)	9968–625
116846	**6a**	**A.A.R. Terminal Block Complete** (Inc. 2-15 and 2-16)	9968–625
	7	**Machine Screw** No. 14-24x1 1/8" Fil. Hd. S. with ¼" Std. Plate Washer.	

PLATE B-2935

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS
(Continued)

DETAIL PARTS

TRANSFORMER AND TERMINAL BOXES

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	8	**Wood Screw** No. 12x1¼" Rd. Hd. S.	
167671	9	**Box Only**	C–8614–18
167672	10	**Cover Only**	C–8614–19
135635	11	**Chain Only**	12535–1
	12	**Rivet** 3/16"x5/8" Rd. Hd. I.	
38710	13	**Washer**	7826–98
29101	14	**Nut**	8109–193
29102	15	**Washer**	7828–139
127260	16	**Nut**	8109–194
	17	1½" **Galv. Chase Nipple** with Lock Nut.	

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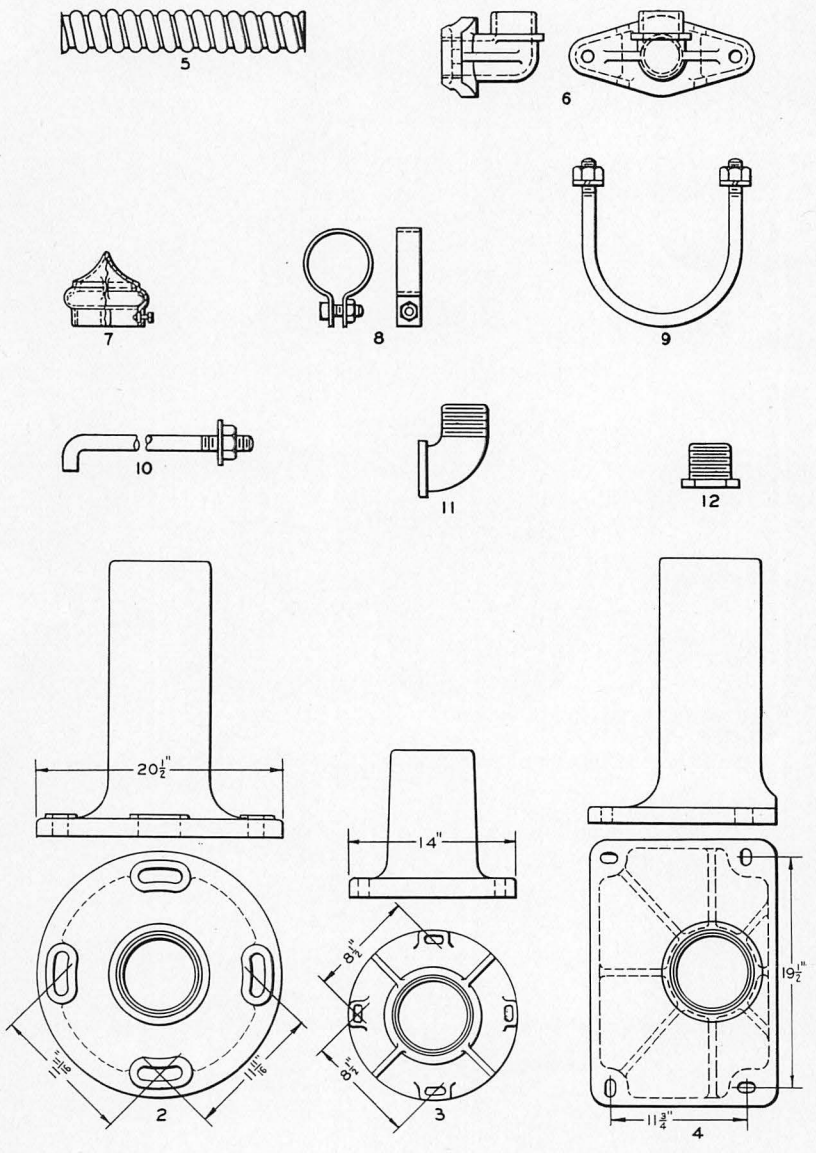
PLATE B-2945

UNION SWITCH & SIGNAL CO.



STYLE "G" COLOR POSITION LIGHT SIGNALS
DETAIL PARTS
BASES, PINNACLE, CABLE OUTLET, ETC.

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNALS

DETAIL PARTS

BASES, PINNACLE, CABLE OUTLET, ETC.

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
44938	**2**	**Base,** A.A.R., for 6″ Pipe	C–6782–1
131006	**2a**	**Base,** A.A.R., for 5″ Pipe	C–6782–11
115264	**3**	**Base,** for 5″ Pipe (For mounting on top of Instrument Case)	C–3231–2
	3a	**Base,** for 6″ Pipe (For mounting on top of Instrument Case)	C–3231–
61092	**4**	**Base,** A.A.R., for 5″ Pipe (For Bridge Signal)	C–7583–1
133716	**4a**	**Base,** A.A.R. for 6″ Pipe (For Bridge Signal)	C–7583–1
	5	**Conduit,** 2″ Galv. S.S. Flex. 2″ I.D. x 2.440″ O.D.x 3′-0″ long for Bridge Signal.	
97611	**6**	**Cable Outlet** with Gasket for Bridge Signal	B–10342–41
97619	**6a**	**Gasket** for Ref. 6	8078–1042
150818	**7**	**Pinnacle** with Tap Bolt and Sq. Nut	B–8121–17
147766	**8**	**Clamp** with ⅜″x1½″ Sq. Hd. Bolt and Hex. Nut for Bridge Signal	11893–385
46567	**9**	**U-Bolt** with ½″ Hex. Nuts and ½″ Pl. S. Lock Washers (3/16″x3/32″) for attaching Ref. 6 to 5″ Post	8782–77
10276	**10**	**Foundation Bolt,** 1″x3′-0″ with 1″ Hex. Nut and 1″ Std. Plate Washer	7913–54
153257	**11**	**1½″ Street Ell**	B–10342–32
	12	**1½″ Chase Nipple.**	

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PLATE B-2950

UNION SWITCH & SIGNAL CO.

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNAL

DETAIL PARTS

LADDERS AND DETAILS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
153589	**A**	**Ladder, 19′-4″ Long** with Platforms and Handrail for 5″ Pipe for Ref. A of Plate B-2905 (One Unit Style "G" Color Position Light Signal with Marker)	B–10313–448
153591	**B**	**Ladder, 25′-6″ Long** with Platforms, Handrail and Stay for 5″ and 6″ Pipe for Ref. B of Plate B-2905 (One Unit Style "G" Color Position Light Signal with Marker)	B–10313–445
153277	**Ba**	**Ladder, 25′-6″ Long** with Platforms, Handrail and Stay for 5″ Pipe for Refs. D, Da, E and Ea of Plate B-2905 (One Unit Style "G" Color Position Light Signal with Marker)	B–10313–445
153641	**C**	**Ladder, 25′-6″ Long** with Platforms and Handrail for 5″ and 6″ Pipe for Ref. C of Plate B-2905 (One Unit Style "G" Color Position Light Signal with Markers)	B–10313–450
153713	**D**	**Ladder, 11′-0″ Long** with Platform for 5″ Pipe for Ref. F of Plate B-2905 (One Unit Style "G" Color Position Light Bridge Signal with Marker)	B–10313–336
113002	**2**	**Ladder Platform Complete** for 5″ Pipe (20¾″ Centers) for Ref. A	B–7501–68
153580	**3**	**Ladder Platform Complete** for 5″ Pipe (15¼″ Centers) for Ref. A	B–7501–125
124081	**4**	**Ladder Platform Complete** for 6″ Pipe (2′-3¼″ Centers) for Ref. C	B–7501–79
112998	**5**	**Ladder Platform Complete** for 5″ Pipe (13⅝″ Centers) for Refs. B, Ba, C and D	B–7501–67
153276	**6**	**Ladder Platform Complete** for 5″ Pipe (21½″ Centers) for Refs. B, Ba and C	B–7501–123
153586	**7**	**Handrail** complete for Ref. A	B–7501–124
153283	**8**	**Handrail** complete for Refs. B, Ba and C	B–7501–124

UNION SWITCH & SIGNAL CO.

STYLE "G" COLOR POSITION LIGHT SIGNAL

(Continued)

DETAIL PARTS

LADDERS AND DETAILS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
152688	**9**	**Upper Brace Clamp** complete for 5″ Pipe for Refs. A, B, Ba and C	B–7501–121
152839	**10**	**Lower Brace Clamp** complete for 5″ Pipe for Refs. A and Ba	B–7501–120
153053	**11**	**Lower Brace Clamp** complete for 6″ Pipe for Refs. B and C	B–7501–121
152649	**12**	**Handrail Brace**	B–7501–121
152650	**13**	**Platform Brace**	B–7501–121
152838	**14**	**Platform Brace**	B–7501–120
153683	**15**	**Ladder Stay** complete for 6″ Pipe, 2′-3″ Centers for Ref. B	B–7501–66
153267	**15a**	**Ladder Stay** complete for 5″ Pipe, 2′-3″ Centers for Ref. Ba	B–7501–66
	16	**Bolt,** ½″x1″ Sq. Hd. with ½″ Hex. Nut.	
	17	**Bolt,** ½″x1¼″ Sq. Hd. with ½″ Hex. Nut.	
139	**18**	**Rung**	B–8365–1
68652	**19**	**Top Stay Complete** for 5″ Pipe	B–7501–8
62563	**20**	**Ladder Foundation Pier** with two ½″x1¼″ Sq. Hd. Bolts and Hex. Nuts	B–8848–10

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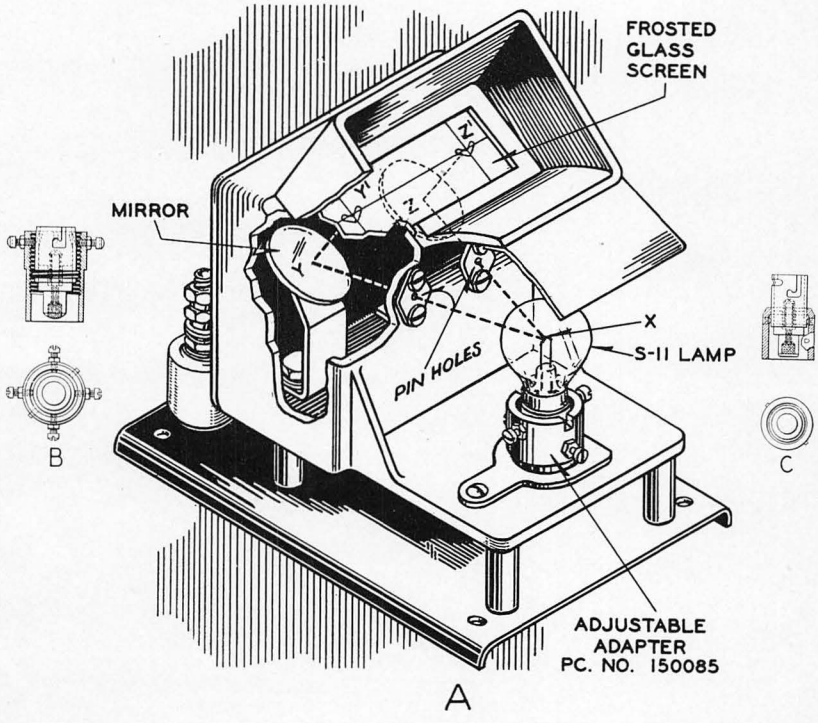


JIG AND ADAPTERS FOR COMMERCIAL OR 1/64″ PRECISION S-11 TYPE LAMPS FOR LIGHT SIGNALS

In those cases where commercially based non-precision "S-11" type electric lamps are used in signals, such as Plate B-2930, equipped with sockets for precision type "PS-16" lamps, an adjustable adapter, shown as Ref. B, is required. In order that the filament may be located at the focal point of the lensing combination, a jig, Ref. A, for checking the adapter adjustment has been made available.

Full particulars as to the manner in which adjustments are made are provided in Instruction Pamphlet U-5040, a copy of which is sent with each jig.

In cases where $\frac{1}{64}$″ precision "S-11" type electric lamps are used, the lamp may be inserted in the fixed adapter, shown as Ref. C, and used in the signal without adjustment in the jig, Ref. A.

UNION SWITCH & SIGNAL CO.

JIG AND ADAPTERS FOR COMMERCIAL OR 1/64″ PRECISION S-11 TYPE LAMPS FOR LIGHT SIGNALS

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
166866	**A**	**Jig** for setting S-11 Electric Lamps in Adapter (Adapter Ref. B and lamp not included)	C–8919–5
150085	**B**	**Adjustable Adapter** (for use with S-11 Single Contact commercially based Lamp)	12415–14
146283	**C**	**Fixed Adapter** (for use with S-11 Single Contact $\frac{1}{64}$″ precision based lamp)	12415–10

Section
B

Plates B-3500, B-3510 and B-3515

SIGNALS

Style "ES-10" and "ES-20"
Color Light Electric Switch Lamps

Union Switch & Signal Co.
Swissvale, Pa.

October, 1930

Printed in U. S. A.

Remove Staple before filing pages in Loose Leaf Cover.

STYLE "ES-10" and "ES-20" SWITCH LAMPS

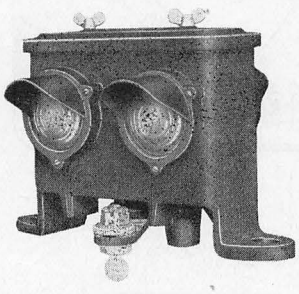
Style "ES-10" and Style "ES-20" Switch Lamps are commonly used to indicate the position of power operated switches at classification and car storage yards. Their use, however, is not restricted to these applications as their design permits their use as a "light repeater" of switch position wherever electric energy is available for lighting purposes.

Style "ES-10"

The Style "ES-10" Switch Lamp shown on Plate B-3500 employs a total of four lamps, two being used for each indication (one for each direction). The four lensing combinations each consist of a 5⅜" diameter (colored) lens and a 20° (clear) deflecting cover glass between which is inserted a wire screen. The signal is available in varying combinations as will be found in the catalog plate.

Style "ES-20"

The Style "ES-20" Switch Lamp differs mainly from the Style "ES-10" lamp in that only one lamp for each front and back indication is required. The front and back lenses for each indication are so placed that the lamp when mounted between them, is in the focal point of each lens. Each lensing combination consists of a 3½" diameter clear lens and a 30° colored spreader glass to give horizontal spread in either direction. Between the lens and cover glass is a wire screen which tends to protect against phantom indications. The Style "ES-20" lamp is made in two designs; one in which the indications are selected over contacts in an external switch circuit controller; the other, in which the circuit controller for selection of indications, is an integral part of the switch lamp. The operating crank for the latter type of circuit controller is provided with a standard ball arrangement which may be adjusted in the slot of the crank to accommodate various strokes of switch points from 3½" to 5½".

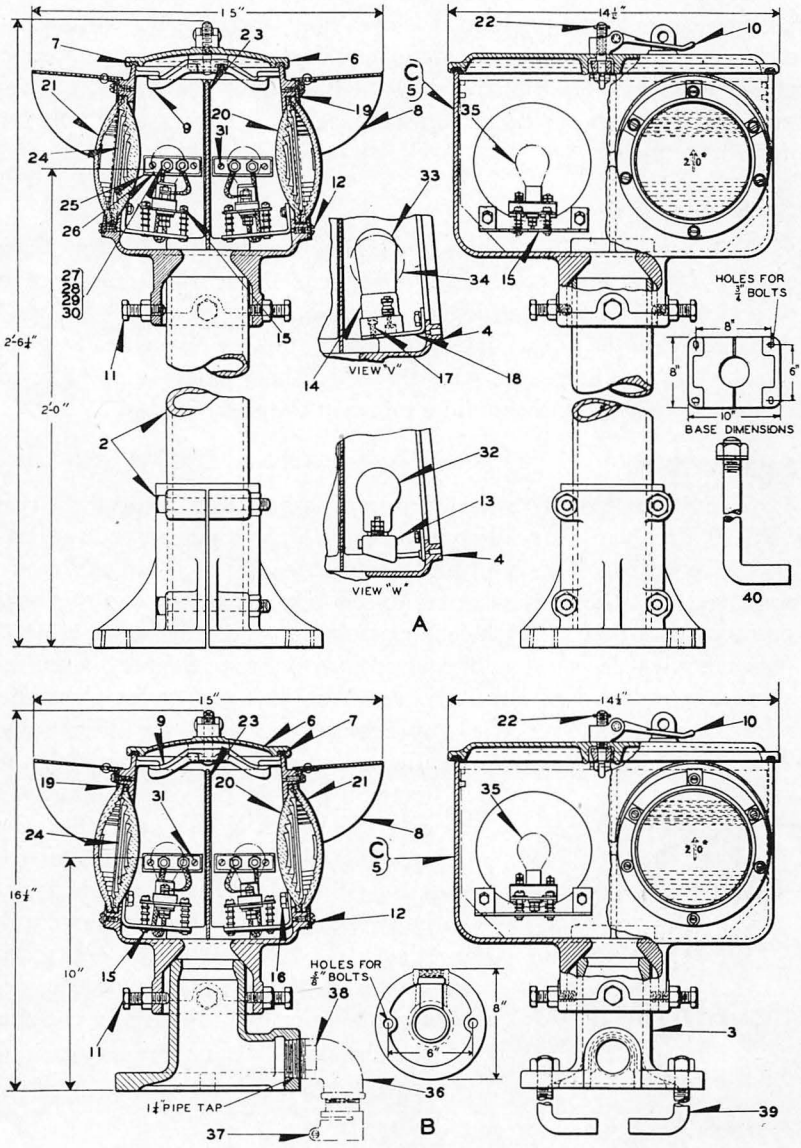


General

Variation in the type of lamp bulb, receptacle, and color of lenses, may be arranged for to suit special requirements.

PLATE B-3500

UNION SWITCH & SIGNAL CO.



STYLE "ES-10" ELECTRIC SWITCH LAMP

UNION SWITCH & SIGNAL CO.

STYLE "ES-10" ELECTRIC SWITCH LAMP

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "ES-10" Color Light Electric Switch Lamp, complete with two Red and two Green lenses (If different color of lenses are desired orders should so state)

Piece	Ref.	Lamp Socket	Lamp Bulb	Base and Post	Foundation Bolts	Remarks	Drawing Reference
	A	As shown	Ref. 35	Ref. 2	Ref. 40		C–9139–3
	Aa	View "V"	Ref. 33	Ref. 2	Ref. 40		C–9139–3
145454	**Ab**	View "W"	Ref. 32	Ref. 2	Ref. 40		C–9139–3
142700	**B**	As shown	Ref. 35	Ref. 3	Ref. 39	With Street Ell & Box Connector	C–9139–2
	Ba	View "V"	Ref. 33	Ref. 3	Ref. 39	With Street Ell & Box Connector	C–9139–2
	Bb	View "W"	Ref. 32	Ref. 3	Ref. 39	With Street Ell & Box Connector	C–9139–2
	C	As shown	Without	Without	Without		C–9139–2
	Ca	View "V"	Without	Without	Without		C–9139–2
	Cb	View "W"	Without	Without	Without		C–9139–2

UNION SWITCH & SIGNAL CO.

STYLE "ES-10" ELECTRIC SWITCH LAMP (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
145448	**2**	**3″ Pipe Post with Base,** for Refs. A, Aa and Ab	B–12440–1
145447	**2a**	**3″ Pipe Post only 18½″ long,** for Ref. 2	B–10920–7
70780	**2b**	**Base (Two Halves)** with Bolts and Nuts for Ref. 2	C–6634–1
138820	**3**	**Base only** for Refs. B, Ba and Bb	C–9133–2
138645	**4**	**Case only** for Refs. Aa, Ab, Ba, Bb, Ca and Cb	C–9133–1
138821	**5**	**Case only** for Refs. A, B and C	C–9133–1
138632	**6**	**Door** with Staple and Gasket	C–9133–1
66245	**7**	**Gasket only** for Ref. 6	8078–717
138721	**8**	**Hood**	C–9133–3
129902	**9**	**Yoke**	12562–2
116087	**10**	**Hasp**	8299–66
141445	**11**	**Bolt** with ½″ Hex. Nut (Cad. Pl.)	8280–18
	12	**Machine Screw No. 10-30x½″** Rd. Hd. S. (Cad. Pl.) with Washer Ref. 12a for attaching Hoods to Case.	
38710	**12a**	**Washer only** for Ref. 12	7826–98
145444	**13**	**Lamp Receptacle,** complete for Refs. Ab, Bb and Cb	C–8665–3
121591	**14**	**Lamp Receptacle,** complete (Medium Screw Base) for Refs. Aa, Ba and Ca	9954–60
141366	**15**	**Lamp Receptacle,** complete (Single Contact Bayonet Base) for Refs. A, B and C	9954–62
	16	**Cap Screw, ¼″-20x⅝″** Hex. Hd. S. with ¼″ plain Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″) Cad. Pl.	

UNION SWITCH & SIGNAL CO.

STYLE "ES-10" ELECTRIC SWITCH LAMP
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	17	**Machine Screw No. 10-30x½″** Fil. Hd. S. (Cad. Pl.).	
138713	**18**	**Support** for Receptacle	11893–303
138938	**19**	**Lens Ring**	7436–132
141271	**20**	**5⅜″ Red Lens**	B–8276–38
141272	**20a**	**5⅜″ Yellow Lens**	B–8276–38
141270	**20b**	**5⅜″ Green Lens**	B–8276–38
145713	**20c**	**5⅜″ Lunar White Lens**	B–8276–38
145269	**20d**	**5⅜″ Clear Lens**	B–8276–38
172131	**21**	**5⅜″ Deflecting Cover Glass** (20° Spread)	B–8276–38
	22	**Cotter,** $\frac{1}{16}$″x¾″ S. (Cad. Pl.).	
144826	**23**	**Partition**	9999–501
155885	**24**	**Screen** (Used between lenses)	7318–77
410539	**25**	**Insulation**	410539
	26	**Terminal Board** complete with terminal posts, nuts and washers (Inc. 2-27)	411175
410289	**26a**	**Terminal Board only** for Ref. 26	410289
	27	**Terminal Post,** complete with Nuts and Washers (Inc. 1-27a, 3-28, 1-29 and 2-30)	12451–
410594	**27a**	**Terminal Post only** for Ref. 27	410594
29102	**28**	**Washer only** for Ref. 27	7828–139
29103	**29**	**Hex. Nut only** for Ref. 27	8109–194

UNION SWITCH & SIGNAL CO.

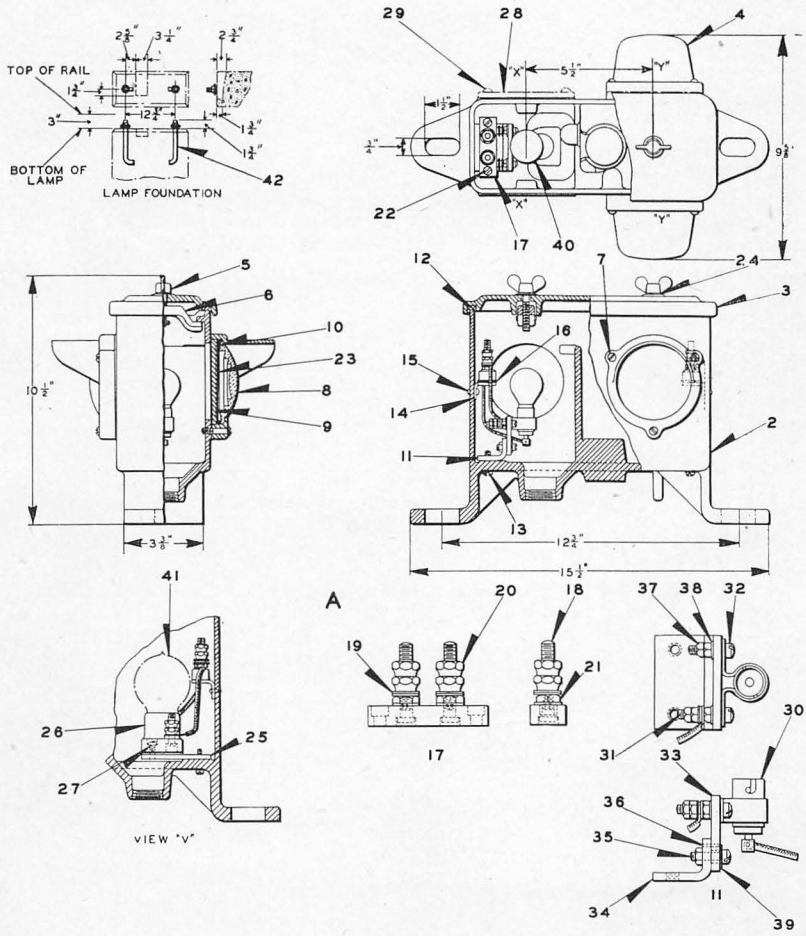
STYLE "ES-10" ELECTRIC SWITCH LAMP
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
29101	**30**	**Hex. Nut only** for Ref. 27	8109–193
	31	**Machine Screw No. 10-30x½″** Fil. Hd. Br. for attaching Terminal Board to Case.	
142944	**32**	**Lamp Bulb,** 10-Volt, 18-Watt, Single Filament (Bayonet Base)	B–12409–21
71116	**33**	**Lamp Bulb,** 110-Volt, 10-Watt (Medium Screw Base)	B–12409–3
68467	**34**	**Lamp Bulb,** 115-Volt, 25-Watt (Medium Screw Base)	B–12409–6
113706	**35**	**Lamp Bulb,** 6-8 Volt, 21-C. P. (Bayonet Base)	B–12409–12
	36	**1¼″ Galv. Street Ell.**	
	37	**1¼″ M. I. Galv. Box Connector.**	
	38	**1¼″ Std. Pipe Plug.**	
123057	**39**	**Foundation Bolt, ⅝″x10″** with ⅝″ Hex. Nut	7913–310
10478	**40**	**Foundation Bolt, ¾″x18″** with ¾″ Hex. Nut and ¾″ Plate Washer	7913–44

PLATE B-3510

UNION SWITCH & SIGNAL CO.



STYLE "ES-20" ELECTRIC SWITCH LAMP
(WITHOUT CIRCUIT CONTROLLER)

UNION SWITCH & SIGNAL CO.

STYLE "ES-20" ELECTRIC SWITCH LAMP (WITHOUT CIRCUIT CONTROLLER)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Style "ES-20" Color Light Electric Switch Lamp complete

Piece	Ref.	Lamp Socket	Lamp Bulb	Lenses		Remarks	Drawing Reference
				X	Y		
155328	**A**	Ref. 11	Ref. 40	Lunar White	Yellow		C–9139–8
157329	**Aa**	Ref. 11	Ref. 40	Green	Red		C–9139–8
159403	**Ab**	Ref. 11	Ref. 40	Red	Yellow		C–9139–8
160575	**Ac**	Ref. 11	Ref. 40	Green	Yellow		C–9139–8
159339	**Ad**	Ref. 11	Ref. 40	Green	Yellow	With Covers Ref. 28 for Blanking out Lights on one side	C–9139–8
159404	**Ae**	Ref. 26	Ref. 41	Red	Yellow	Socket per View "V"	C–9139–8
168038	**Af**	Ref. 26	Ref. 41	Lunar White	Green	Socket per View "V"	C–9139–8

Piece	Ref.	Description	Drawing Reference
155329	**2**	**Case**	C–9133–7
153259	**3**	**Cover**	C–9133–8
148064	**4**	**Hood**	C–9133–5
153677	**5**	**Thumb Screw** with 1/8"x3/4" Cotter (Cad. Pl.)	8331–75
153383	**6**	**Yoke**	12562–4

PLATE B-3510

UNION SWITCH & SIGNAL CO.

STYLE "ES-20" ELECTRIC SWITCH LAMP
(WITHOUT CIRCUIT CONTROLLER)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
	7	**Machine Screw, No. 10-30x1″** Rd. Hd. S. (Cad. Pl.) for attaching Hood Ref. 4 to Case.	
135274	8	**Clear Lens, 3½″** Diameter	B–8276–32
141359	9	**Red Roundel, 3½″** Diameter	8468–52
141360	9a	**Yellow Roundel, 3½″** Diameter	8468–52
141361	9b	**Green Roundel, 3½″** Diameter	8468–52
141363	9c	**Lunar White Roundel, 3½″** Diameter	8468–52
149564	10	**Gasket**	8078–437
148223	11	**Lamp Receptacle**, complete with mounting Brackets, Single Contact Candelabra Bayonet Base	12415–13
153382	12	**Gasket**	8078–1454
	13	**Machine Screw, ¼″-20x¾″** Fil. Hd. S. (Cad. Pl.) and ¼″ Plain S. Lock Washer ($\frac{1}{16}$″x$\frac{1}{16}$″) (Cad. Pl.) for attaching Lamp Receptacle Ref. 11 to Case.	
148082	14	**Bracket** for Terminal Board	10914–124
54937	15	**Rivet** for attaching Bracket Ref. 14 to Case	10301–50
410539	16	**Insulation**	410539
	17	**Terminal Board** complete with Terminal Posts, Nuts and Washers (Inc. 2-18)	411175
410289	17a	**Terminal Board only**, for Ref. 17	410289
	18	**Terminal Post** complete with Nuts and Washers (Inc. 1-18a, 3-19, 2-20 and 1-21)	12451–
410594	18a	**Terminal Post only**, for Ref. 18	410594

UNION SWITCH & SIGNAL CO.

STYLE "ES-20" ELECTRIC SWITCH LAMP (WITHOUT CIRCUIT CONTROLLER) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
29102	**19**	**Washer**	7828–139
29101	**20**	**Nut**	8109–193
29103	**21**	**Nut**	8109–194
	22	**Machine Screw, No. 10-30x½″** Fil. Hd. Br. (N. P.) for attaching Terminal Board to Bracket.	
150463	**23**	**Screen**	7318–76
116719	**24**	**Washer**	8078–1352
159424	**25**	**Plate**	9999–686
121591	**26**	**Lamp Receptacle,** Medium Screw Base	9954–60
	27	**Machine Screw, No. 10-30x⅝″** Fil. Hd. S. (Cad. Pl.) for attaching Lamp Receptacle Ref. 26 to Plate Ref. 25.	
159336	**28**	**Cover** for blanking out openings	C–9133–5
	29	**Machine Screw, No. 10-30x½″** Rd. Hd. S. for attaching Cover Ref. 28 to Case.	
94185	**30**	**Lamp Socket**	C–8665–2
	31	**Machine Screw, No. 10-30x1″** Fil. Hd. Br. (N. P.) with Nuts and Washers (Inc. 1-31a, 3-37 and 3-38)	
	31a	**Machine Screw No. 10-30x1″** Fil. Hd. Br. (N. P.) for Ref. 31.	
	32	**Machine Screw No. 10-30x¾″** Fil. Hd. Br. (N. P.) with Nuts and Washers (Inc.1-32a, 2-37 and 1-38)	
	32a	**Machine Screw, No. 10-30x¾″** Fil. Hd. Br. (N. P.) for Ref. 32.	

PLATE B-3510

UNION SWITCH & SIGNAL CO.

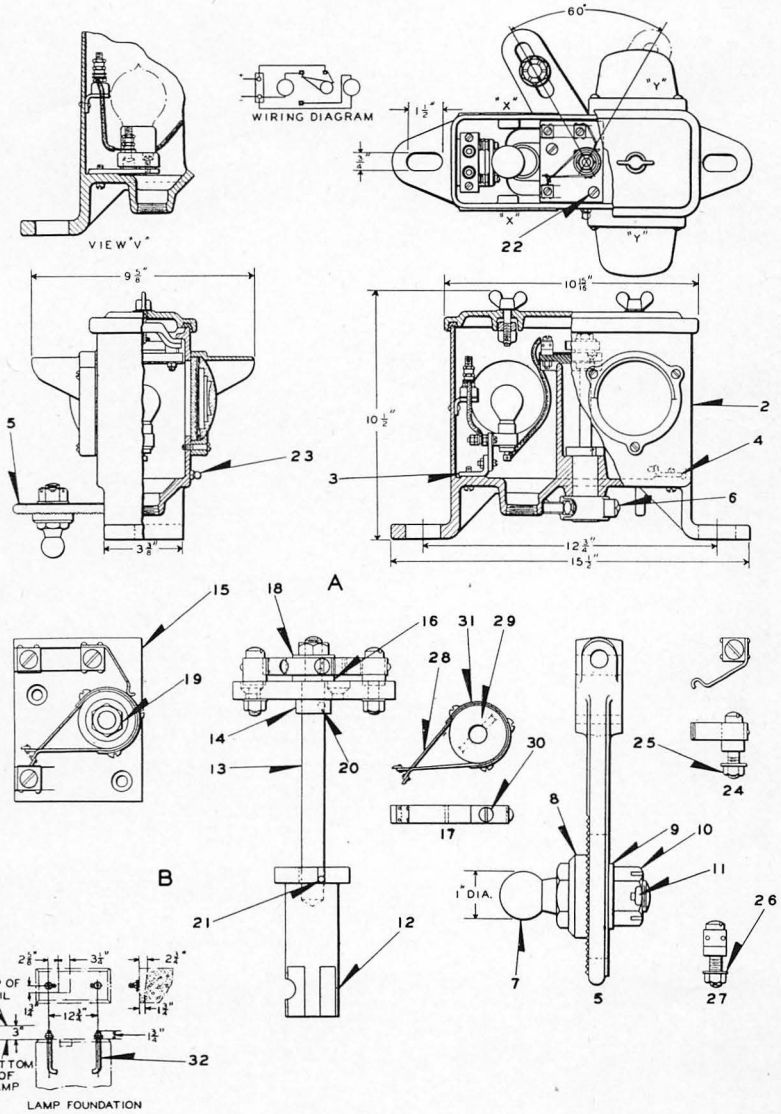
STYLE "ES-20" ELECTRIC SWITCH LAMP (WITHOUT CIRCUIT CONTROLLER) (Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
148081	**33**	**Insulation**	8750–2285
148080	**34**	**Bracket**	10914–123
	35	**Machine Screw, No. 10-30x⅝″** Fil. Hd. Br. (N. P.) with Nut and Washer (Inc. 1-35a, 1-37 and 1-39).	
	35a	**Machine Screw, No. 10-30x⅝″** Fil. Hd. Br. (N. P.) for Ref. 35.	
64027	**36**	**Dowel Pin**	8097–872
26942	**37**	**Nut**	8109–184
44618	**38**	**Washer**	7828–184
53	**39**	**Washer**	7828–5
145877	**40**	**Lamp Bulb,** 11-Volts, 11-Watts, Single Filament (Bayonet Base)	B–12409–18
95268	**41**	**Lamp Bulb,** 120-Volts, 36-Watts, Single Filament (Medium Screw Base)	B–12409–6
68467	**41a**	**Lamp Bulb,** 115-Volts, 25-Watts, Single Filament (Medium Screw Base)	B–12409–6

PLATE B-3515

UNION SWITCH & SIGNAL CO.



STYLE "ES-20" ELECTRIC SWITCH LAMP
(WITH CIRCUIT CONTROLLER)

UNION SWITCH & SIGNAL CO.

STYLE "ES-20" ELECTRIC SWITCH LAMP (WITH CIRCUIT CONTROLLER)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
153760	**A**	**Style "ES-20" Color Light Electric Switch Lamp** with 11 Volts, 11 Watt Lamp Bulbs and Receptacles Refs. 3 and 4 as shown, "X" Lenses Red and "Y" Lenses Yellow	C–9139–7
165243	**Aa**	**Style "ES-20" Color Light Electric Switch Lamp** with 11 Volts, 11 Watt Lamp Bulbs and Receptacles Refs. 3 and 4 as shown, "X" Lenses Red and "Y" Lenses Green	C–9139–7
169539	**Ab**	**Style "ES-20" Color Light Electric Switch Lamp** with 115 Volts, 25 Watt Lamp Bulbs and Receptacles per View "V." "X" Lenses Red and "Y" Lenses Yellow	C–9139–7
	B	**Circuit Controller** with Shafts, Pins and Terminal Board.	
153258	**2**	**Case**	C–9133–7
148223	**3**	**Lamp Receptacle,** complete with mounting brackets and one 6″ and one 8″ lead, Single Contact Candelabra Bayonet Base	12415–13
155332	**4**	**Lamp Receptacle,** complete with mounting brackets and one 9¼″ and one 14½″ lead, Single Contact Candelabra Bayonet Base	12415–13
154923	**5**	**Crank** complete with Stud, Nut and Washer	8192–352
153378	**5a**	**Crank only**	8192–352
	6	**Bolt, ⅜″x2½″** Sq. Hd. S. (Cad. Pl.) with ⅜″ Hex. Nut (Cad. Pl.).	
149674	**7**	**Stud**	8071–169
153384	**8**	**Washer**	8065–205

UNION SWITCH & SIGNAL CO.

STYLE "ES-20" ELECTRIC SWITCH LAMP
(WITH CIRCUIT CONTROLLER)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
25076	**9**	**Washer**	7826–35
96325	**10**	**Castellated Nut**	8265–234
	11	**Cotter, 1/8″x1 1/2″.**	
153380	**12**	**Shaft**	12501–36
153379	**13**	**Shaft**	12501–37
153218	**14**	**Collar**	8072–646
153676	**15**	**Terminal Board** complete with Contact Spring and Terminal Posts (Inc. 1-15a, 1-24 and 2-27)	9968–893
153393	**15a**	**Terminal Board only**	9968–905
73021	**16**	**Washer**	7826–34
153392	**17**	**Contact Spring** complete	8385–2176
	18	**Washer, 3/8″** S. Plate (Cad. Pl.).	
9175	**19**	**Nut**	8265–6
37789	**20**	**Pin**	8097–279
67108	**21**	**Pin**	8097–770
	22	**Machine Screw, No. 14-24x5/8″** Flat Hd. S. (Cad. Pl.).	
	23	**1/8″ Pipe Thread Alemite Push Type Elbow Fitting, 67 1/2°.**	
	24	**Contact Spring** complete with Screw, Nut and Washer (Inc. 1-24a, 1-25 and 1-26)	12451–
153388	**24a**	**Contact Spring** complete (Without Nut and Washer) for Ref. 24 (Inc. 1-24b, 2-24c and 1-24d)	8385–2177

UNION SWITCH & SIGNAL CO.

STYLE "ES-20" ELECTRIC SWITCH LAMP
(WITH CIRCUIT CONTROLLER)
(Continued)

Order by Plate, Piece, Reference and Abbreviated Description Given in Heavy Face Type Only

Piece	Ref.	Description	Drawing Reference
153387	**24b**	**Contact Spring**	8385–2177
54929	**24c**	**Rivet**	10301–21
	24d	**Machine Screw, No. 14-24x3/8"** Fil. Hd. Br. (N. P.).	
31670	**25**	**Nut**	8109–218
29104	**26**	**Washer**	7828–138
	27	**Terminal Post** complete with Screw, Nut and Washer (Inc. 1-27a, 1-25 and 1-26)	12451–
153678	**27a**	**Terminal Post** complete (Without Nut and Washer) (Inc. 1-27b, 1-24c and 1-24d)	8094–2218
153391	**27b**	**Contact Tip**	8341–373
153390	**28**	**Contact Spring**	8385–2184
153385	**29**	**Contact Spring Support**	8095–661
	30	**Machine Screw, No. 8-36x1/4"** Rd. Hd. S. (Cad. Pl.).	
154752	**31**	**Reenforcement Spring**	8735–674
		For other details refer to Plate B-3510.	